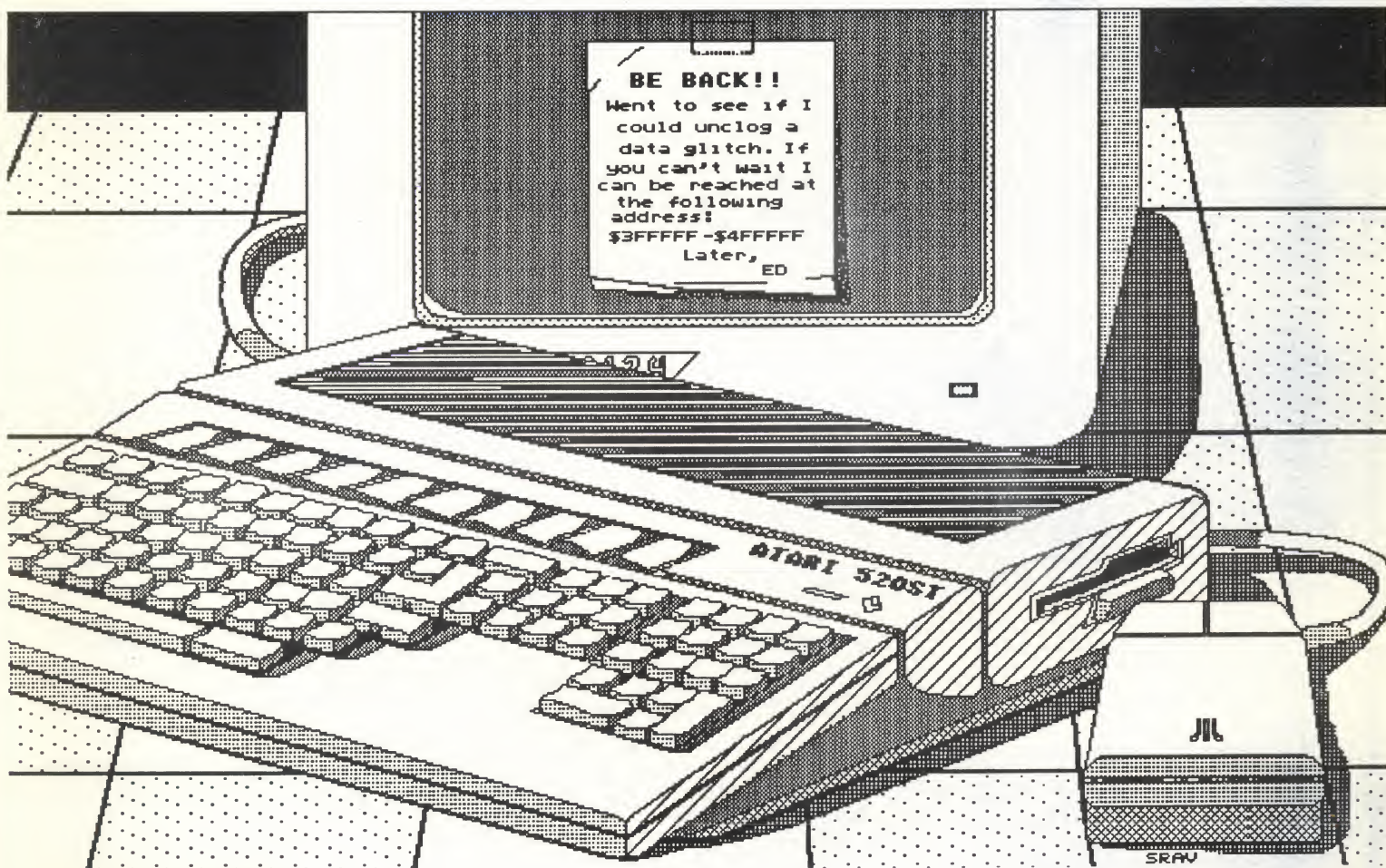


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April 1988

Michigan Atari Magazine

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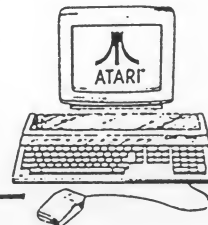
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Special Thanks to Steve Volker of TAG for the cover art and art on Page 35. Steve's company, Graphicom Enterprises, located in Saginaw, MI, will create computer graphics to fill your every need. And they do it on Atari STs! Call him at (517)793-2955 for more info. Look for more of Steve's excellent artwork in future issues of MAM.

From the Reader's Viewpoint

CACE - The So-called Club!

I am someone who is just getting into computers. I am also looking for a club to help me learn how to use my computer to its full potential. I went to either last month's or January's CACE meeting, and, counting myself, there were 15 people there. I would like to know if there is any problem with this club besides sheer laziness of the members.

Are you one of those members that doesn't like what is going on in your club? All I can say is tough. You have a say in what goes on, but you have to be at the meetings to make your point.

If you're a CACE member and have any objections, be at the next meeting and ask for me.

Tim Hotchkiss

[Editors' Note: Lethargy on the part of a club's members is one the worst things clubs and their officers have to face. Please, pitch in and help your club when it asks. Better yet, volunteer without being asked!]

My Two Cents

A few words on a few subjects: 1) Alan Alda, who played Hawkeye on the television series "M*A*S*H*" will no longer be an Atari spokesman. His five-year contract with Atari has expired; but it seems that his computer spokesman image has not. IBM, in an apparent effort to both M*A*S*H* and fatally "Pierce" the competition, has hired Alda to represent them. It's too bad that we had to lose him, but let's face it - it was inevitable. With IBM gobbling up all the former M*A*S*H* stars, it was only a matter of time before ole Hawkeye became part of the collection. Bye-bye, Hawkeye.

2) I would like to convey my personal thanks to Jimmie Boyce for making it so easy to contribute to the CACE newsletter. Before Jimmie took over, I had the impression a modem was required to submit an article. Whether this was actually true or not, I do not know, nor do I care. I can now write an article in AtariWriter, save it to disk, and give the disk to Jimmie at the monthly meetings. There's more than one way to skin a cat (although I personally prefer the Ginsu method myself).

3) It seems that I am the last member of that very small group of people in CACE who were known as "Atari ST owners." For one reason or another, CACE ST owners have been dumping their systems. Why? It has been claimed that the software is too glitchy and buggy. Is this true? Yes! Anyone who complains about ST software has a legitimate right to do so. Almost all the

software I have for my ST contains bugs, ranging from very minor to down-right annoying. Although I felt it unnecessary to mention it in my Mean 18 review last month, there was one very minor glitch in the program. At the end of a game, the optional printout of your score looks like a jumbled up mess of letters and numbers. While this does not affect game play at all, it is rather annoying because I paid close to \$40 for this unperfected game.

But does this justify dumping the ST? For an Atari zealot like myself, the answer is a definite *no*. I think that dumping a machine like the ST because of poor software is akin to getting rid of a sleek, powerful racing car because the only fuel that is readily available is low-grade. The ST has a lot going for it: it's faster than any other computer in its class; the Motorola 68000 microprocessor gives it incredible power; the ST uses a very friendly operating system called GEM; it's also less expensive than its competitors. In Europe, the ST is very popular. The software market for the ST will get better provided there are enough ST users around to influence it.

Tim Sharpe

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Atari News and Comment

News Analysis by John Nagy

Atari Corp. is reporting good sales and profits for 1987, with net operating income of 44 million dollars, up from 25 million in 1986. Computers made up 51 percent of total Atari sales, games the remainder...and the losses still carried forward from prior years are now almost cancelled. Losses from the Federated Electronics stores chain, purchased last year by Atari, are being controlled, and the chain is expected to break even in 1988. Computer sales in Europe and game sales in the US have continually improved, although the price of Atari stock has not changed much from the \$6-7 mark it fell to in October.

Product announcements include demos of Atari's CD-ROM, with 540 megabytes of storage plus full audio disc compatibility. It's already available for developers, and might be available at retail outlets (at \$599) in late spring. Cleverly set up to support three different "standard" formats (nobody knows which will "win"), it even has an IBM interface card included for MS-DOS users. If Atari can just get it out in a timely fashion, the market is wide open.

A long-rumored machine may be edging out of the deepest of the vapor. Atari indicated they would show a 68030 machine at the Hanover Fair in Germany, and hopes to see it to market in 1988!

Sony might scoop the workstation/mighty-mini market planned for the Atari ABAQ if the transputer is delayed. Sony has a prototype 68020 multi-processor transputer that does indeed look like competition for the \$5,000 ABAQ. But at Sony's reported \$25,000 price, Atari would certainly have an advantage...if it can be bought before "Joe's Corner Transputer Store" has clones at \$3,000.

Rumor is Atari may extend its warranty from the current 90 days on all equipment to a full year! Although this would seem a boon to buyers, it may worsen the almost adversarial position of dealers vs. Atari. It is an expensive proposition to be an Atari repair center, and requires a commitment to fix anyone's machine, no matter where it was purchased. Adding nine months to the warranty, plus a "company policy" to assure 48-hour repairs on Mega machines may chase more of the already scarce dealer/service centers out of the market. Let's hope Atari can better its dealer relations.

Atari's plans to build and operate a manufacturing center in the US hit a snag due to government control on foreign/imported memory chips. [Editor's Note: It seems that a US supplier is taking advantage of the trade restrictions and selling the DRAMs at several times cost. This has prompted Atari to file a lawsuit against Micron Technologies, Inc. Atari claims Micron is guilty of

price-fixing and violated its contract to sell Atari three million DRAMs at \$3.75 each. Micron apparently refused to bargain a new contract, prompting Atari's action.]

AtariFests continue to give user groups headaches, despite being potential money makers (the Detroit MAGIC show earned GLASS, GAG and MAGIC thousands of dollars to divide). However, a recurring theme in the post-mortems of AtariFests is the Hybrid Arts Blues. Alan Glick of Jackintosh Boston Users Group (J-BUG) reported that while profiting about \$4,000 overall at the AtariFest, Hybrid Arts had failed to pay nearly \$1,000 for its two booths, ads, etc. — despite more than four sets of invoices and many phone calls. Now, says Alan, H.A. denies it was even at the Fest! Hybrid Arts puts on a popular MIDI-Maze game and offers nice prizes at AtariFests...let's hope they get it together before they become an outsider.

On the outside at a November Florida AtariFest was BEST Electronics, a California junkie/parts/oddity/Atari paraphernalia peddler that has run afoul of Data Pacific, maker of the Magic-Sac Macintosh emulator. Says David Small of Data Pacific, BEST has continually promoted its "pirated" set-up of the Magic-Sac, even down to offering printed instructions on how to build your own and avoid paying for David's work. BEST offers some wonderful and hard-to-find items, and pressure was high to keep them in the AtariFest lineup, but organizers of the SUN Atari show in Palm Beach, Florida stood fast and refused BEST booth space. David says he is gratified at the show of anti-piracy support, and BEST is now facing legal action from Data Pacific.

More clubs are investing in bigger and better newsletters and are cutting exchange lists down to conserve costs. Current Notes, out of the Washington D.C. area, outgrew the term newsletter quite a while ago...with about 80 pages a month, professional-level layout and cover art and a \$3 cover price. Current Notes has notified its exchange list clubs it will discontinue trading newsletters and the clubs should subscribe. Now a number of other clubs have followed suit and dropped their entire exchange program, seemingly regardless of the size or quality of product. There are other options. The club I am affiliated with, CHAOS of Lansing, Michigan, is a contributor club to the Michigan Atari Magazine, and the exchange list costs them nearly \$100 every month. They are moving about two-thirds of their list to an every-other or every-third month rotation in order to not have to actually drop anyone, despite many of the trades being for a two-page "corner-staple" letter. Let's hope that the

rush to save a buck doesn't crush the amazing reprint network that has kept newsletters and club members across the country supplied with up-to-date and relevant material.

A hardware item looking for software is the new 8bit XF551 disk drive from Atari. Although it "supports" true double-density and double-sided read/write, its "ADOS," which was to be shipped with the new drives, is *still* not ready. Indeed, it may never be ready since the developer, OSS Inc., merged into ICD Corp. ADOS is planned to be so very much like SpartaDOS that certainly ICD won't have anything to do with it. But then, you really can't do better than SpartaDOS, so why bother? The XF551 is currently available in some areas (mostly West Coast?) for about \$220, and comes with (sniff!) DOS 2.5. Which, of course, means you can't access the best features of the drive. ADOS is said to be scheduled for a later public domain release. [Editor's Note: ICD has announced an upgraded version of SpartaDOS which accesses the special features of the XF551. For more info, contact ICD at 1220 Rock Street, Rockford, IL 61101, Phone: (815)968-2228, BBS: (815) 968-2229]

Mouse, anyone? The Atari 8bit line is without a mouse...but the Commodore mouse designed for the C-64 and C-128 will work fine. Although the plug won't go into the recessed joystick ports on an XE (it will on an 800 or XL), you can use extension cables and have good results. The 8bit mouse (don't get the Amiga mouse by accident!) can be found for sale far below the thirty-odd dollars retail... I bought one for \$7 on a Sears clearance table. Not hugely useful, the mouse will serve as a joystick without any additional software and can make either dramatic improvement in your gaming aiming or totally confuse you, depending on the way the game handles. Unlike a "real" mouse which decodes actual position, speed, and direction, this one only reacts to direction and duration like a joystick.

Trivia: It is said that Russ Wetmore wrote the Commodore version of HomePack using Action! language on his Atari computer.

"HOT" Tip: don't probe about inside your 1040 ST (or 520 STFM) with the plug still in the wall. The heat sinks for the internal power supply are *live*. Presumably, you want to stay alive too.

Last item: B.L. Enterprises, Box 7881, Louisville, Kentucky, 40207, offers a software package that allows you to use a second Atari 8bit computer as a 48K RAMdisk. Although this sounds like the hard way to avoid an internal upgrade, it may be of interest to some users who have more computers than drives. And, as hard to find as 1050s are these days (not to mention the new XF515s)...!

Lock and Key for the ST

By R. Flashman

Reprinted from Nybbles & Bytes, 9/87

I was walking by Radio Shack today, and, succumbing to temptation, in I went. Under the alarm section, I saw they sell a round key lock like the ones used on an IBM AT. Since it is for an alarm, it has the contact on one side, all ready for an electrical wire.

Hmmm, I thought. I am always getting annoyed by people who play with my ST at a show or meeting when I am busy doing something else and can't supervise...

I bought it...and I found space right over my joystick ports (520 ST) on top of the RF shielding, and now I have an AT-style lock and key on my ST! It looks very good, was dirt cheap, and in the off position you cannot turn on the ST!

Actually, it was so simple it's disgusting. (Lock cost \$9.99) I haven't tried this modification on a 1040 ST yet, so I'm not sure about the best location.

I found two locations on the 520 ST - the first being on top of the unit, to the back and left, directly above the cartridge port. Turn your 520 upside-down and you will see how much space there is. I am hoping that the 1040 has the same space.

The other, which is the one I used, is right above the second joystick port. (The one you *don't* plug the mouse into.) There is enough space, and it lies right above the RF shielding next to the power supply, so not much cable is needed.

The switch has two connectors on its end. I connected two wires to it, and then opened up the RF shielding. You will notice that the power switch has three legs coming out of it. The one you want to get is the smallest one. (This is the one closest to the back of the ST.)

I cut it right where it meets the main board. (Now that took guts!) Then I soldered one of my wires to it. I connected the other wire to one of the wires that comes up from the board to that funny round magnet to the left of the power switch (and about an inch into the board).

The wire that it gets wired to is the one closest to the mouse port. If you don't believe me, look under the board and you will see that, originally, that wire was connected to the leg that we just cut off the power switch.

You now have a switch to the power switch. Turn the key to the off position and the power switch becomes useless.

This will void your warranty, as will any memory upgrade or drive swap, but it works like a beauty.

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Vos Ist DOS?? A Refresher Course

By Leo Sell (CHAOS)

[Author's Note: Sometimes we forget to cover the basics. A reminder of this occurred at the January meeting of the 8bit SIG. The last item on the agenda was an introduction to DOS. I was surprised to see numerous people furiously scribbling notes on anything they could find. So, for all of you who are still a little uncertain, here is an updated reprint of an article printed in 1986. Let us know of other subjects you would like to see addressed.]

Please forgive the fractured German title. Every now and then, I realize how confusing a computer and terms such as DOS, etc, are to the newer users. This article is a small attempt to lift some of the confusion surrounding Atari DOS 2.0/2.5. I have tried to make it as basic as possible.

For starters, DOS stands for Disk Operating System. Atari computers and disk drives do not have a DOS or handler for the disk built-in; therefore a DOS is required to access a disk drive.

There are two ways to access DOS with your computer. Holding the Option key down while booting a disk containing DOS will disable BASIC and the DOS prompt or menu will appear. To accomplish the same thing from BASIC, be sure your program is SAVED (since it will be erased from memory by many DOSes), and type DOS. Press Return and the DOS prompt or menu will appear. If this doesn't happen, the disk probably does not contain the DUP. SYS file necessary for some DOSes.

Which DOS is Best?

There are dozens of choices of DOSes for the Atari, but most of the best ones have quite complicated and detailed documentation, so we leave them to you...for now. By far, the most-used DOS for the Atari is the one included with the disk drive when you buy one. This is almost always Atari DOS 2.0, Atari DOS 2.5 or Atari DOS 3.0. If you are using DOS 3.0, may the Computer Gods help you! Find a way to transfer your files to DOS 2.0 or 2.5 as soon as possible, and use your 3.0 disk for target practice. Atari released DOS 3.0 after DOS 2.0, then realized that the bizarre format and total non-compatibility of DOS 3.0 was a mistake. So, in another bold step backwards, DOS 2.5 actually came out after DOS 3.0 and is clearly superior.

What about DOS 4.0, some of you ask? Well, it actually was never released officially, but did get out and has been circulated as a public domain "item of interest." Use it as a curiosity, at your own risk. DOS 4.0 was not released because it was another step in the same wrong direction as DOS 3.0 -- incompatible with everything, and unwieldy

in requiring endless disk-swaps with the master disk for even simple DOS operations.

Now, how about a brief training manual on DOS 2.0/2.5? While some DOSes may be more powerful, and others more friendly, DOS 2.0 and 2.5 are the most common and well-known. So...

Training Manual for DOS 2.0/2.5

Boot a disk containing DOS 2.0 or 2.5. From BASIC, type DOS and press Return. The following menu will appear on the screen:

Disk Operating System II, Version 2.X

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- | | |
|--------------------|--------------------|
| A. DISK DIRECTORY | I. FORMAT DISK |
| B. RUN CARTRIDGE | J. DUPLICATE DISK |
| C. COPY FILE | K. BINARY SAVE |
| D. DELETE FILE(S) | L. BINARY LOAD |
| E. RENAME FILE | M. RUN AT ADDRESS |
| F. LOCK FILE | N. CREATE MEM.SAVE |
| G. UNLOCK FILE | O. DUPLICATE FILE |
| H. WRITE DOS FILES | P. FORMAT SINGLE |

An explanation of the menu items follows:

A. Disk Directory - This option allows you to display or print a list of the files on a disk. You can see all or part of the filenames and send the directory to P: (Printer). The default is show all files (*.*) on the Screen Editor (E:). To see what I mean, type "A" (without the quotes) and press Return twice. A list of all files on the disk will scroll down the screen. If there are a large number of files you can pause and start the scrolling using Control-1.

The odd characters I have already used (*.*) are called wildcards. They are useful when you want to limit the directory search. The asterisk is used to replace any combination of characters. For instance, to show only files with a .BAS extender, type "A" and press Return once. At the prompt, type *.BAS and press Return. Only files bearing a .BAS extender will be displayed. (By the way, an extender is the character(s) following the period in a file name; you may have a maximum of 3 letters in an extender.)

For a printed listing of the directory, type A and press Return. At the prompt type "*,P:" and press Return. This will result in a list of all filenames on the disk printing out. Of course, you can limit the directory search in the same way previously mentioned. Use the same syntax to send a copy of the directory to any valid device.

The comma is often important as a divider. If a comma shows in a prompt, it is probably necessary in your response.

B. Run Cartridge - This option exits DOS and

returns control to the cartridge. Usually any program that was in memory before going to DOS must be reloaded.

C. Copy File – This option is used to copy files between devices. For instance, to copy a file from Drive 1 to Drive 2, type "C" and press Return. When the "From,To" prompt appears type: D1:FILENAME.EXT,D2:FILENAME.EXT and Return. Don't forget the comma and don't add any extra spaces. The filenames need not be identical, and you can also copy to devices other than a disk drive. The common use would be in printing documentation (.DOC or .TXT extenders) files without a word processor. To copy to the printer, respond to the "From,To" prompt with D1: FILENAME.EXT,P: and Return. Two last notes. Wildcards can be used with the copy option. For instance, copy all .BAS files by responding with D1:*.BAS,D2:*.BAS. Another thing to note is that this option is not suitable for copying a file from and to the same drive (unless you want a second copy under a different name). To copy a single file use option "O".

D. Delete Files – This option allows you to eliminate unwanted files from the disk. Be sure that the file is no longer of use before deleting it – this option should be considered permanent. To delete a file, type "D" and press Return. At the prompt, type the filename and press Return. In a few moments, the dirty deed is done.

E. Rename File – You can use this when you want to rename a file. Type "E" and press Return. When prompted, type the Old Name, and the New Name, separated by a comma. Wildcards are operable, but be very judicious in their use.

F. Lock File and G. Unlock File – Another name for these options is Protect and Unprotect. Locking a file protects it against accidental deletion, renaming and overwriting (but not against being formatted over). To protect all files on a disk, type "F" and press Return. At the prompt, type *.* and press Return. DOS will then lock all files. When you next look at the directory, you will see asterisks beside each of the locked files. Notice that wildcards may be used. For instance, to protect only the .BAS files, respond to the prompt with *.BAS, and press Return. These same procedures hold true for Unlock as well.

H. Write DOS Files – DOS files are necessary for a disk to boot on the computer. Insert a formatted disk in the drive, type "H" and press Return. Follow the prompts to write the files DOS.SYS and DUP.SYS. DOS will ask which drive number to write the files to. After the files are written, the disk can then be booted on its own.

I. Format Disk – Formatting a disk prepares it for use by the disk drive and computer. At this point there is a significant difference between

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SpartaDOS Construction Set Review

By Michael Ranger (WAUGI)

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I purchased a US Doubler with SpartaDOS about three months ago, and I am learning something new everyday. This is a summary to give you a better idea of what ICD's SpartaDOS can do for you on the Atari 8bit.

A Disk Operating System (DOS) is a program directing the internal operation of your computer and disk drive. When your computer is first turned on (booted), its Operating System (OS) checks to see what devices are present. If a compatible disk drive is attached and set as "D1:" (drive number 1), the computer will try to read in a program which should take control after it loads. This program is usually the DOS and becomes a part of the computer's lower memory until the power is turned off.

A common use of DOS is to act as a storage device for other programs. Utility cartridges are good examples. Once your system is booted up, the DOS commands are executed through the cartridge menu and act as the manager for disk storage.

File management becomes important as the system size increases. Subdirectories and time/date stamping are invaluable in a well-organized filing system. SpartaDOS is the *only* DOS allowing file stamping on the 8bit and an RD command to set up a RAMdisk of 192K for XLs with 256K upgrades, which is what I use a lot to save on disk spinning.

Binary files are machine language programs in file form, which you can run. LogoMenu is a special menu program that makes binary file

loading almost foolproof and provides a beautiful display (impress your friends!) as well. Loading binary files is a common use for a DOS, and LogoMenu is a good way to prevent the inexperienced user from damaging valuable files by accidentally entering the wrong command.

Handlers are programs written to handle external devices. An example is a handler written for a specific printer or a communications handler that provides a link to the modem through an RS232 I/O port. A number of handlers come with SpartaDOS.

The supplied utilities are for housekeeping. Commands like Erase or Rename will delete or rename files. Chkdsk and Rpm are utilities which give important information about the condition of your system. If you need to do something, chances are SpartaDOS has a utility for it.

You can use a Startup batch file like an AUTORUN.SYS to automatically bootup utilities or other binary or BASIC files through the BASICon/BASICoff commands or to a previously loaded cartridge from the Car command. SpartaDOS was written so that utilities could be added later without rewriting the DOS.

Miscellaneous functions allow rerouting of normal input and output of the system (called redirection or diversion). SpartaDOS also provides a standard for transferring information from one system to another.

Add Some Color to Your Day

```
10 FOR L=0 TO 8 STEP 2:FOR C=0 TO 16:?  
"SE.2,";C;" ";L:SETCOLOR 2,C,L:FOR T=1 TO  
300:NEXT T:NEXT C?:NEXT L
```

DOS 2.0 and 2.5. When you use this option in DOS 2.0, the disk is formatted in Single (810-style) density and can hold 90K of information. DOS 2.5 formats in "dual density" on Atari 1050 drives only. Dual density is also referred to as density and a half. The disk will hold about 140K of information. However, a caveat... *don't use "enhanced, dual, density and a half"!!* Dual density is not compatible with all disk drives. If you use dual density, you may regret it. Use either single density or a DOS with true double density. In DOS 2.5, use option "P" and format the disk in single density.

J. Duplicate Disk - This option can be used to duplicate a disk, but I would recommend you use one of the copy programs from your user group library. For example, Copymate is far more flexible and powerful than this option.

K. Binary Save - Option K is used primarily by machine language programmers.

L. Binary Load - This option allows you to load a machine language file. Once loaded, it will automatically run. To use this option, type "L" and press Return. When the prompt appears, enter the filename (wildcards are allowed) and press Return. Most M/L files will have an extender of .OBJ, .COM or .EXE.

M. Run at Address/N. Create Mem.Sav - Both option "M" and "N" are for more advanced programming uses and need not be considered for most uses.

O. Duplicate File - This is the option to use when duplicating a single file on a single disk drive. Type "O" and press Return. DOS will prompt you for the filename to be duplicated. Large files may need to be read twice, so watch the prompts carefully.

P. Format Single - This option is exclusive to DOS 2.5. It allows you to format in single density. Use option "P" rather than "T" when using DOS 2.5.

Take Action! with your Programming

No.2 In a Series by Gayle Sims (c) April, 1988

In my last article, I introduced you, or perhaps reintroduced you, to Action!, a cartridge-based language for your Atari 8bit systems. This month I will take you a few steps further – into various options you can set for each programming session.

Since ICD/OSS provided a manual for ACTION!, let's assume you have read through the first few chapters, and you will not be totally in the dark on a few phrases or items to which I will refer. The manual will familiarize you with the various parts of Action!, and introduce you to the feel of the system.

You will need a DOS disk, either Atari DOS 2.x+ or SpartaDOS. Insert your DOS into the drive, plug the Action! cartridge in and turn on the computer. After your machine has booted, you will find yourself in the Action! editor. Looks just like a word processor, doesn't it? You can treat it as such! It accepts almost any character available on your Atari and allows you to move freely within the screen, or window, where your text is stored. Your Control key and cursor arrow keys will be your guides throughout the system.

The first thing you will want to do at the beginning of each session is set your options. Before we select our options, we need to go to the Action! Monitor. The Monitor is the command center of the system. From there you will be able to access the Editor, the Compiler, DOS, and so on. To access the monitor, just type shift/control-M. You will see a command line with a ">" prompt. Now, to set the options you are able to change, enter an "O" and press <Return>. I will take each option one by one, and explain them to you.

Display on? The default is Y. Unless you want to see the program compile and save and write, you will want to change this to N. Turning the display off also increases the speed of compiling and disk I/O operations.

Bell off? The default for this is N. I like to turn it on, just to listen for errors and to keep myself awake late at night.

Case insensitive? This is a very important option. A few programs are written using the same variable, perhaps the upper- and lowercase A, throughout the program. The case sensitivity will compile the program, paying attention to the case differences of the variable A. If you try to compile a program and it does not compile, toggle the case sensitivity and the program will probably compile correctly. If you are writing your own programs and doubt you will run out of variables, always select N here. It will save headaches in the long run.

Trace on? Trace On set to N will compile your

program without taking you through the program step by step as it compiles the routines. If you would like to watch, select Y. This can be a useful tool when debugging your source code.

List on? List On, like Display On, will turn the listing off and on, but *only* during the compiling process. Always turn this off, unless, again, you need to debug a routine. Operation speeds will be increased when off.

Window size? The screen full of text that you will see is your window. This window is the size of a normal screen, 18 lines long. You can shorten it or lengthen it to 23. This is purely a matter of choice. To scroll up, down, right and left in your window, just press the control key along with the appropriate cursor key.

Line size? This controls the maximum size of a line that you can input, and the compiler will recognize. The default is 120, and it seems to be perfect for most applications. You can change the setting to your needs. Remember, since the Atari 8bit has a 40 column output, the excess of 40 columns will be scrolled to the right. You can access the scrolled text with your cursor keys.

Left margin? Set to 0, this will allow you to type flush against the left side of the page. Default is 2, which makes for neater coding and easier viewing.

EOL character? The default for this option is \$9B, or blank. This highlights the end of the lines in the code. You can choose a "*" or any other character to help you find the ends of lines more rapidly.

After the last option, you will be back to the Monitor's command line. Entering "E" and <Return> will take you back to the Editor. Entering "D" will take you out to DOS, where you can perform any DOS task as needed, such as formatting new disks or copying files in and out of your RAMdisk.

Next time, we will get more familiar with the Editor and begin writing a few simple routines!!! I will also include a complete command sheet and help page for you to use.

A note To SpartaDOS users – be sure to exit to DOS from the Monitor and key off. Otherwise, your input will be too fast and will be repeated. You might also want to include this in your .BAT file.

Ordering for ICD/OSS products is available by calling 815/968-2228 from 8AM to 5PM CST Monday through Friday. For more information, write to: ICD/OSS, 1220 Rock St, Rockford, IL 61101. I can be reached by mail at: Suite #6-216, PO Box 4005, Carmichael, CA 95609-4005.

Until then, Gayle...!

ST Notes: Digisound ST by Alpha Systems

By LeRoy Valley (TAG)

Digisound ST \$89.95

Professional \$149.95

Digiplay \$49.95

Alpha Systems, 1012 Skyland Drive,

Macedonia, OH 44056, phone (216)374-7469

By now, most of you have realized that I like to buy toys. Not just plain old, everyday toys, but unique and interesting computer-oriented toys. If you have been reading my column since MAM first got started, then you will believe me when I say that I buy a LOT of toys. If you haven't been reading my column (shame on you!) then just trust me (hehe).

Of course, when you buy a lot of toys, your "new product" interest tends to become jaded, and it takes more and more wow, pizzazz, and oomph to impress you. What is all this leading up to, you say? Well, this month I'm going to review the neatest little product that I've ever laid hands on.

I've had more fun, spent more hours on my computer and generally gotten the wife more tee'd than ever before. What new and unique product could accomplish all this? The answer to all the above is Digisound ST, a sound digitizer by Alpha Systems.

Digisound ST plugs into your cartridge port on

your ST and allows you to sample real world sounds, voices or music at 5K to 40K per second. It's offered in two versions - Digisound ST and Digisound ST Professional. I've used both models and will be reviewing both. First, I'll cover all of the goodies offered on both models, then I'll cover the specifics for Professional.

The software included is Digiplay (once again, by Alpha Systems), and this is what really makes the digitizer sing (pun fully intended)!! Digiplay is fully GEM-based and easy to use. Menus at the top of the screen include File, Effects, Bar, Edit, Rate and Options. At the bottom of the screen are tape recorder-style buttons that give you short cuts to eight of the most-used features - Record, Play Normal, Play w/Pitch, Real Echo, Scope, Delete, Cut and Paste.

Let's say that we want to start digitizing right away. For starters, we need some form of sound input. Simply connect an amplified source (radio, tape player, microphone) to the Mic In jack on the cartridge. If you're using a standard microphone you'll need a preamplifier for Digisound ST (Radio Shack has them for \$12.00).

Next, we have to select the sampling rate at which we wish to digitize the sound. Going to the

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GIANT WALL SIZED POSTERS.

Rate menu, we find that Digisplay offers 8 sampling rates – 5K, 8K, 10K, 16K, 20K, 25K, 32K and 40K! The "sampling rate" is the number of samples per second to store for the sound. Obviously, the more samples/second, the better the digitized sound will be reproduced.

But the more samples/second, the more memory we consume. How much memory, you ask? On a 1MB machine with no accessories loaded, recording at the lowest rate of 5K gives you a max of 172 seconds of recording time. The highest rate of 40K gives you a mere 22 seconds! Using 16K gives very good reproduction and gives you 53 seconds of recording time, so we'll select 16K.

Now that we have our sound source ready, and our sample rate set, let's select the Record button at the bottom of the screen. This brings up a dialog box which displays the Max Sample Time and allows us to set the desired sample time. There are three buttons – Sample, Test and Cancel. Selecting Sample simply starts Digisound digitizing. The Test button lets you hear the actual sound as Digisound perceives it. This option is great for adjusting bass and treble controls and is really nice for locating specific sounds on a tape recorder!

Ok, now that we've got a sound captured, we select the Play Norm button and hear the sound reproduced extremely well through our monitor speaker! Both Record and Play can also be found in the Options menu, but if you select Play here you get a box with a column of buttons allowing you to test different effects on your sound. The first button (Pitch) turns your keyboard into a synthesizer! Each key plays at a different pitch. Just press keys to play a sound; it's that easy!

Using the left and right mouse buttons, we can select a portion of the sound wave (the selected section is marked with vertical bars and the top slider will be red between the bars), and, by selecting the Some option, we can play just that portion! Using the alternate key and both mouse buttons, we can also set loop points within the selected section so that the sound will repeat until a key is released.

MIDI allows us to play the sampled sound with the synthesizer keyboard (the sound still comes through the monitor). Decay only lets the sound play as long the key is pressed. Echo plays the sound wave with real-time echo. You can set the time in milliseconds between each echo, the length of die-out time and the loudness of the echo. The number of sounds that can be created with this one effect is staggering! The last effect in Play, Envelope, allows you to apply an envelope to your sound.

Browsing through the Options menu we find

Scope, which shows you graphically (in real time) your current input level. This is dynamite for adjusting your input! If you're over-driving Digisound, the sound waves will have red tips! Echo lets you take a sound as it is input and apply real-time echo immediately! It plays the altered sound even as you speak.

Apply allows you to permanently alter your captured sound with any of Digisound's effects (it will also make many of the effects sound better on the finished sound). Stats displays current statistics of your sound like free memory, sound length, buffer length, sampling rate, etc. The Wave and Envelope options simply allow you to display a sound with or without an envelope.

Undo Buff enables an undo buffer that allows you to reverse many of the commands. Be wary of this command, as it can consume as much as 1/2 of your precious memory! The Draw command lets you manually redraw your sound wave or envelope depending on the mode you're in.

By going to the Effects menu, you can further decimate your sound with effects like Raise and Lower (to physically move the position of the sound wave on your screen); Amplify and Quiet (to increase or decrease the volume of the sound); Silence and Noise (to insert a section of silence or white noise); Stretch and Squeeze (to lower or raise the pitch of the sound); Fade In and Fade Out (to smoothly increase the sound to full volume or decrease it to silence), and finally, you can even Reverse a sound wave and play it backwards! All of these effects can be applied to any portion of your sound or to all of it!

Hopping over to the Edit menu we can Cut, Copy or Delete a section of sound. If the sound is cut or copied, we can then Paste it back in or Mix it with an existing sound! A Clear Buff command is included to free up buffer memory if necessary.

The Bar menu lets you find the beginning or end of a sound section and also lets you zoom in to a selected portion of the sound wave. Using the Scale function, you can keep selecting smaller sections of the wave until you can see the entire wave form that makes up a sound! The Use All option returns you to full scale.

Whew! We've stretched, echoed, amplified and mixed our sound (and who knows what else!) and now we'd like to save it. Selecting the File menu we see the familiar Open, Save, Save As and Quit options. We also see the unfamiliar Merge (to merge two sound files together) and Write (this saves a sound file to disk that is compatible with Hippo, Navarone and other sound digitizers).

If all of that isn't enough to impress you, hang on, there's more! All of the above goodies are avail-

able on both Digisound STs. The Digisound ST Professional goes one step further by offering two input jacks (one straight line in and one amplified line in) along with an Input gain control to adjust the input level, and one output jack (also with a gain control).

This output jack provides considerably better output than your ST monitor (you should hear it on my stereo!), and any of the sounds recorded with Digiplay can be played either through the monitor or the cartridge! The two input jacks can be used for real time mixing of two different inputs! It also offers Logarithmic sampling, which gives a wider dynamic range and less distortion.

Talking with George Morrison, President of Alpha Systems, I found him confident in his product and every bit as excited as I am about it! He stands behind his product and offers a 30-day money-back guarantee. (But don't buy Digisound expecting to get your money back - once you get it, you won't let go of it!) I mentioned that a Mix and Load Buff from file command would be extremely useful, and George agreed. Hopefully, we will see it in the near future.

In two hours worth of work, I prepared a profes-

sional sounding demo that will knock your socks off! This demo is 500K worth of music and voice, and demonstrates many of the features of Digiplay. If you're interested in it, have your club librarian give me a call.

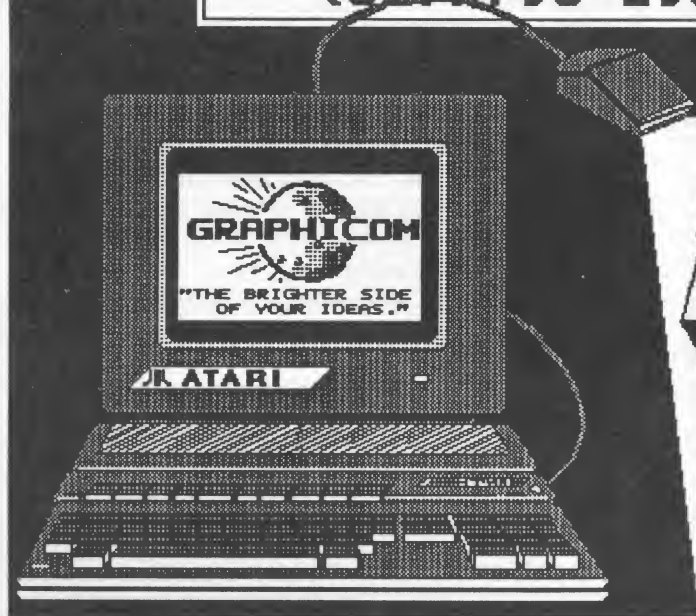
To sum up the product, the cartridge is very well put together (it even looks good) and the software is very polished and complete. All of the nice little touches are there to make it a joy to use for years to come! Another gotta have!

Ok, that's it, I've run out of gas. The features of this product speak for themselves. I've got to stop writing and start playing with Digisound. If you can't tell that I'm in love with the product, please reread the article. If you've already got a sound digitizer, Digiplay is available separately for \$49.95.

My GENie mail stop is L.Valley. Please leave me some mail with your comments and/or suggestions for future columns!

8bit tidbits - If you want smooth scrolling action in Graphics 0 (the power-up default mode) try this:
POKE 622,255 : GR.0

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Gone Fish'n from Interstel

ST Software Review by Chet Kapusinski

Most of us have seen or heard of Mean 18, 8-Ball, Silent Service, Hardball, Gridiron, Flight Simulator, etc. What else can possibly be simulated? Yes, Atari fans, there is another recent arrival. It's Gone Fish'n!

Being an avid fair weather angler myself, this title caught my eye in the mail order ads about a month or so ago, but I thought to myself how exciting could it be or how can fishing be simulated on a computer? Then, after receiving Gone Fish'n for review, I was soon pleasantly surprised.

The Scenario

Twenty (20) good weeks of Bass fishing season are at hand, and as the owner of a small business, you have more independence than most. You can choose between work or your only vice (?) – bass fish'n! Don't we all wish we had such choices.

After the impressive opening graphics and title tune from the Andy Griffith show, a weekly weather forecast is displayed in calendar format with a box to click (choose) to work, or fish. On the day(s) you pick to fish, you go to the kitchen to plan your strategy – you click on the radio to get a more accurate weather forecast for the day. You can review your progress from previous weeks by clicking the Fish'n Log, read your Bass book for the tip of the week, and then you check the area map to pick the lake you want to fish.

You then can go promptly to the lake to get an early start, or you may want to visit the tackle shop to purchase necessities, i.e.. lures, maintenance equipment, (even boats, depth/fishfinders, etc.). Initially though, you're a humble (poor?) fisher and only have \$200 a week to spend on fishing. Thus, your only initial option is to rent a boat at the lake.

Your boat comes equipped with an outboard motor for moving fast across the lake, and an electric motor to sneak up on the lurking lunkers. Also in your boat, you have a tackle box from which to choose (click) your lure, a lake map for checking out the structure, an anchor and a live well in which to keep your catch.

After clicking on either your outboard or electric motor and motoring to your favorite place on the lake, you lower the anchor. Then you have the option of retrieving your cast either fast or slow. And after clicking the spot where you want your cast, you reel in your lure by holding down your mouse button. At the lower right part of the screen is an underwater window allowing you to actually see the lure working. After numerous casts and when you are about to become frustrated, Bingo! A bass attacks your lure! You set the hook by moving your

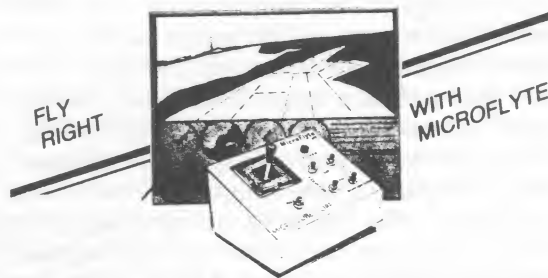
mouse back and clicking again. If you're lucky, you hook the fish and a battle begins! At this point, you have to retrieve you fish carefully or he'll break off. Every Thursday, Friday, and Saturday there is a tournament held on one of the area lakes. If you have saved enough cash and think you're good enough, you can enter and try for big money!

Gone Fish'n, written by Roger Damon, packaged and distributed by Interstel (formerly Cygnus), features some impressive fishing simulation details, graphics, packaging, and a well-written manual followed by a dissertation on structure fishing, tips, and other ramblings by the author. It is a worthy purchase, and it may help winters pass faster until you can go and do the real thing!

[Editor's Note: Special thanks to Interstel for the review copy of Gone Fish'n, which Interstel has also graciously donated to CHAOS. For more information on Gone Fish'n or their other fine products, contact: Interstel Corp., PO Box 57825, Webster, TX 77598, Phone (713)486-4163. Gone Fish'n can be found at many of the stores advertising with MAM or purchased from Electronic Arts, PO Box 7530, San Mateo, CA 94403, or by calling 1-800-245-4525.]

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Building a Digital Logic Probe

by Don Neff (MACE)

A friend recently stopped by with his sick dot matrix printer. "I've checked all the voltages with a voltmeter, compared them to the specifications in the manufacturer's schematic, and they look fine," he said as he handed me a sample print-out which had a white horizontal line through all the letters. "As you can see from the line through the letters, one pin in the head is not firing," he continued. I nodded in agreement to his assessment. It couldn't have occurred to a more important pin either; it was the pin which made the cross bar on the small letter "t" and capital letter "H". In fact, all of his lower case vowels were missing their top line – "punk" vowels with skinhead hair cuts. The sample print-out he had given me was almost unreadable because of this problem.

"I need some way to trace the pin control pulses through the digital circuit to see where they stop. Of course I knew it would be easy for you with this," he said as he patted my 8-trace oscilloscope.

He had the right idea; if we found where the signal stopped, we'd be at the defective component. Voltmeters respond too slowly to trace digital pulses and instead give the average voltage of a string of pulses.

An oscilloscope is a good tool for this type of computer trouble-shooting, but it isn't the only tool that can do it. A tool costing less than \$20 can do just as well in this case.

We booted up my computer, hooked the printer to it and told the computer to send a continuous string of capital "H" characters to the printer. "Uh, shouldn't we turn on the 'scope so we can trace the digital signals?" he inquired. I shook my head negative and pulled a large, ridiculous-looking ink pen out of my toolkit. I hooked two wires from the pen to the printer's power supply and began poking around in the printer's digital circuits with the tip of the pen. Two lights on the pen began flashing in rhythm to the print head control signals as the head printed its way across the paper. I explained to my friend that the lights represented the digital pulses at the point in the circuit which the pen tip was touching. Since the lights were flashing, we knew the pin control pulses were getting to that

point so the problem had to be further along in the circuit.

The problem turned out to be the driver transistor for that pin. The lights flashed when the pen touched the Base lead of the transistor, but not when the Collector lead was touched (the Emitter was directly connected to ground). The digital signal was not getting through the transistor from the Base to the Collector. The transistor had been burned "open," probably by a voltage spike on his power line when he was printing.

"But my voltmeter showed all the voltages to be within specs on all three legs of that transistor!" protested my friend. After carefully unsoldering and removing the defective transistor, I handed my voltmeter to him and asked him to check the voltages again.

"They're all still within specs, even with the transistor removed!" he exclaimed. I explained to him that the voltages are controlled by the biasing resistors and not the transistor. Transistors in digital circuits are either fully "on" or fully "off." Since this transistor was burned open, it was now permanently "off" and had no affect on any voltages.

That's another reason why his voltmeter was of little value for trouble-shooting this particular problem. One must use digital tools to trouble-shoot digital computer equipment. This job called for an inexpensive tool called a Digital Logic Probe; not an expensive oscilloscope.

"But, that large pen you used – it looks like a piece of junk, not a tool," he said. I tactfully reminded him that his printer was still in little pieces which were scattered all over my bench. I also mentioned that insults wouldn't improve the steadiness of my hands as I soldered it all back together. He wisely reworded his statement to something like, "...looks less than professionally built."

I gently took the pen apart to show him the inner workings. "Why, there's nothing to it but a couple of 555 timer chips! Even I could build a Digital Logic Probe if I had the schematic!" he said excitedly. I opened my circuit notebook and handed him a copy of Figure 1.

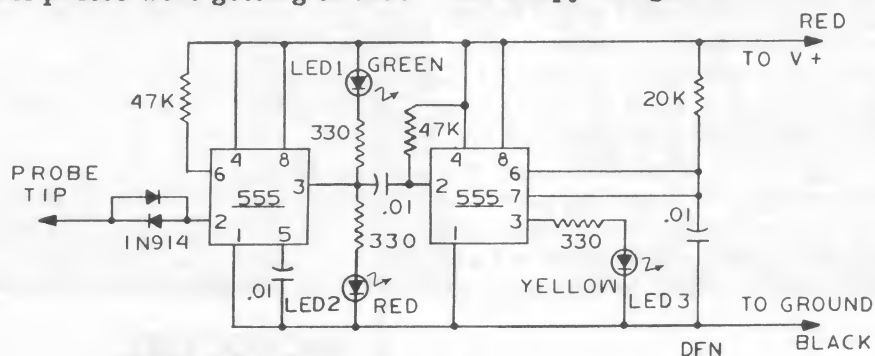


Figure 1

Building the Probe

I constructed mine from junkbox parts, but you can buy them all (except a case) from Radio Shack.

The large pen which I used for the case was about 1 inch in diameter and was a promotional gift from a salesman. The square plastic case which comes with some brands of toothbrushes would make an excellent case, too.

The Logic Probe gets its power from the circuit being tested through two (24 inch) wires with small (red and black) alligator clips (RS# 270-378) on their ends. The clips are used to fasten the wires to any ground and V+ (5 to 15 volts) connection in the circuit being tested.

I made my probe tip from a 2-inch piece of welding wire with a short piece of #22 wire soldered to it. The welding wire was epoxied to the end of the pen and the small piece of attached wire was connected to the diodes (RS# 276-1122) at pin #2 of the first 555 IC (RS# 276-1723). Any heavy wire or large needle could be used to make this tip. Sharpen the end of the tip to make it easier to use in tight spaces. Install heat-shrink tubing over the full length of the probe tip and then trim it back, slightly exposing only the sharpened tip for electrical contact. This will prevent accidental shorts with the side of the probe tip while you are trying to position the tip in a crowded circuit.

If you plan to install the finished circuit in a small case, you should consider carefully attaching the components directly to the IC chip legs instead of using a circuit board. By the time you trim a circuit board down small enough to fit a tiny case there won't be enough board left to be useful.

The Circuit

The two diodes on the input leg (pin #2) of the first 555 IC eliminate false triggering from noise. The output leg (pin #3) switches high or low, inverse to the state of the input leg. When pin #3 is low, LED 1 is lit, indicating that the probe tip at pin #2 is High (a Digital "on" state). Likewise, when pin #3 is high, LED 2 is lit, indicating that the probe tip at pin #2 is Low (a Digital "off" state).

Occasionally, when a high speed string of pulses is switching the probe tip rapidly between High and Low, the LEDs will not light up brightly enough to be seen. The second 555 IC senses this and holds the third LED on long enough for you to see it.

I suggest you use a Green LED for LED 1, a Red LED for LED 2, and a Yellow one for LED 3. This will allow you to tell, at a glance, the condition of pulse string by the color which is lit. Think of the LEDs as traffic indicator lights: Green (go) means high or on; Red (stop) means low or off; Yellow indicates change is occurring.

Testing the Probe

Attach the power leads to the terminals of a 6 or 9 volt battery. Alternately touch the probe tip to the positive and negative battery terminals several times. The Red LED should light when you touch the negative terminal, and the Green LED should light when you touch the positive terminal. The Yellow LED should flash briefly after you move from the negative to the positive battery terminal.

Do-it-yourself Atari 8bit Keyboard Repair

by John Nagy

Atari's 8bit computers have one of the best service records in the computer industry. One single area comes up time and again as the weak point on our computer: the keyboard. Nearly all the original 800's (the beige tank) are still working flawlessly, but when the XL series came out, the retail price was a quarter of the introductory 800 price. Part of the saving came as a result of a much cheaper keyboard, although it still wasn't bad. Then came the XE series, priced at under a quarter of the original XL prices, and again, the keyboard was cheapened drastically.

Here are a number of solutions that have been used with great success by owners around the country. Some are gleaned by my own experience inside of too many keyboards, and others come by way of user group newsletters.

The 400/800

These machines will probably never stop working. Almost a joke among users, the 400 "membrane" keyboard is hideous to type on and was widely replaced by after-market keyboards. These are too varied in nature to try to discuss here. The keyboard on the 800 is full typewriter quality, and seldom needs attention. When it does, it is very difficult to repair due to the many moving parts inside each key. Sometimes the keys will stick... probably due to too many Cokes and peanut butter.

Since the unit is very well-built and has no thin film connectors, it is safe to nearly drench this machine in "tuner cleaner" spray to get the glop out. Use no-residue cleaner at first, followed with a low-lubrication spray. I have had the nastiest-feeling keys go silky smooth after a session of this.

If you actually break a key (almost the only other common failure), you have little choice but an entire keyboard transplant. Check around, a dead 800 isn't too hard to find for parts and the replacement is straightforward...even though opening the 800 is quite an experience! Replacement 800 keyboards are generally not available new and would be prohibitively expensive.

The XL Series

Generally, a fairly stable keyboard, although there are actually at least three distinctly different key sets used throughout production and yours may not exactly match the descriptions here. Some are very nice (the one on the 1200XL is legendary) and will never need work. Others are not so lucky. These keyboards *are* incorporating printed-film conductors that can be damaged by some cleaners and rough handling, so beware.

The Atari XL keyboard and console keys are attached to the top of the case. To get at it, remove the screws from the bottom of the case (don't lose too many when turning it over!) and lift the top away. It remains tethered with a ribbon connector and sometimes a grounding wire. Leave the ribbon connected until it is necessary to remove it. It is simply pressed into a socket on the motherboard and will deteriorate every time you pull it out.

Problem: One key repeats uncontrollably. This is the most common flaw and can be thermally dependent, happening only when cold or only after use. The repair is simple after examination of the internals of the keyboard. Pull the ribbon and get the keyboard alone on a good work-surface, keys down. Remove the metal backplate carefully, keeping those tiny phillips screws. Once the back is loose, be even more careful not to let any key-springs get lost. They will stay put without popping, one in each key, if you don't dump the whole keyboard. Maybe you'd better put the cat in another room.

You will be looking at a plastic sandwich of two conductive-trace layers and a punched plastic insulator between them. The idea is that the keyspring presses down on the top layer and squeezes the top conductor through the hole onto the lower layer, making the connection. After a few jillion key-presses, the top layer stretches and touches the lower all the time, or at least when you don't want it to.

Many times, simply pulling the layers apart, gently cleaning them, and reassembling the unit will result in complete recovery, as the sheets will be sitting in a slightly new orientation. More severe cases may require some shimming (use ordinary tape, cut into thin strips) to thicken the "swiss cheese" insulator around the problem keys.

Problem: One or a group of keys (including the "console" keys, Start, Select and Option) no longer work. This can be simply too much junk in between the layers of the plastic, and fixed by cleaning. It is more likely (especially if a group of keys are affected) either a break in the conductive traces or a bad connection at the ribbon. It's worth the effort to try to clean it first, using the procedures above.

The ribbon end is very fragile. Some older units

have a thick metal trace glued onto a small plastic tab that pushes into the connector, and these almost always fall apart upon disconnection. They also are usually the original problem. To fix one, remove the tab and clean the now hanging "fingers" of the ribbon. They bend *easily!!!* so watch it.

When you have them looking good, spray out any junk in the connector, and try this trick to reinsert the ribbon: fold the ends of the conductors individually back up against the ribbon, facing the side that will best contact the connector on the motherboard. Gently press the ribbon back into the connector, trying to see that the fingers on the ribbon stay straight and don't touch each other. You can jockey them a bit with a toothpick after the ribbon is connected. Beware, you may only get to do this a couple times before you lose a conductor. If you do, you can try to bare the ribbon back a-ways, but more likely you are finished with that keyboard.

Newer keyboards have the conductor printed on the plastic. These can develop broken traces where a piece of the conductor either wears off or is flaked off, losing the connection. These may be hard to find, but careful inspection and testing with an Ohm meter for conductivity in the problem area will show where the circuit is interrupted.

The area of actual contact between the sheets can also be worn too badly to conduct. Either way, repair it with conductive paint. This can be found at Radio Shack or other electronic parts stores, or use rear window defroster repair from auto-supply houses. Using a toothpick as a brush, bridge the problem area with fresh and stirred conductive paint and allow to dry. Test it again before you re-assemble, and be careful not to create new traces where there were none before!

Although more stable than the older-type ribbon, the printed ones can go bad at the end too. A small scratch can prevent the connector from making contact with a trace, or the connector may be losing it's grip. Either way, fix it by trimming a quarter-inch off the ribbon to bring virgin traces into the connector, and shim the backside (non-conductive) of the ribbon with an adhesive paper label. The new contact area coupled with the tighter fit will insure a connection.

As with the 800, if you actually break a keytop, you may have to replace the keyboard. Fortunately it is easy, following the instructions above, and used "parts" machines are plentiful. Feel free to mix parts from two bad keyboards, using the information above – you can't lose anything and can probably get one to work.

The XE Machines

The weakest keyboard yet, this one goes much further in cheap production procedures. It has no

springs to loose and no sandwich. It uses a conductive pad on each key that simply touches a pair of traces on a single sheet to make the connection. Open the case just like the XL, but the keyboard is loose once the top is off. Use any and all of the film-trace and ribbon end fixes described above for the XL to effect your key repairs. Do *not* use any cleaner of any kind on the film, a soft damp cloth is all you should wipe with. Many cleaners would wipe the traces right off!

Problem: The Start, Select, and Option (console) keys are dead or erratic. This is the biggest problem reported on the XE series, and does *not* relate to any defect described above. Each key amounts to a switch, and the type used in the XE have some internal resistance that the circuitry expects and deals with. But, due to poor planning, the amount of resistance in the console keys is too critically close to the tolerance point of the circuit watching them, resulting in failure if the resistance is a bit high. Cleaning may seem to fix this, but never for long. Don't. The fix is *not* in the keyboard itself.

Atari put several comments in service reports about how to fix this problem by replacing a resistor and adding a ship behind the film in the console key area in order to enable a more firm key-press. I have tried these methods repeatedly without reliable result. However, a fix that has never let me down is to add shunt resistors under the motherboard.

Essentially, you simply add a resistor in each console key circuit that continuously "leaks" a bit to the ground, so that not nearly as much of a connection is needed at the key itself. Obtain three 3,000 Ohm resistors, the smaller the wattage and physical size, the better. Remove the keyboard and set it aside. Remove the main circuit board from the case and remove the shields (usually bend-tabs holding the top to the bottom through slots in the circuit board).

Seen from the top (as though you were looking at the keyboard), the ribbon connector has ground as the first connection at the left end and reset at the other end. Moving in from the Reset end is Option, Select and Start, in that order from right to left. Working from under the circuit board, so as not to damage the terribly cheap connector, solder one end of all three resistors to the ground pin and the other end of each to the pin for each of the three console keys. Be careful not to use too much heat or solder as the motherboard is fragile, and the traces are delicate. Bend the resistors and tape if need be to assure no shorts when the shields go back on.

Try the repair out by using this simple BASIC program:

```
10 ? PEEK(53279):G.10
```

Type that line, then type RUN. You will see a

row of sevens down the screen. Pressing any one or combination of console keys should reliably result in the value changing to any number from 0 to 6. If all is well, your console keys work with the original feather touch instead of the heavy jab you might have had to use before the fix.

Like the other series machines, if you actually break off a key, you must replace the keyboard. But, if you can't repair the plastic film inside the XE keyboard, there is a replacement sheet available that is superior to the original. Contact BEST Electronics, 2021 The Alameda Suite 290, San Jose, California 95126. You can call them at 408-243-6950 for current pricing, but it is under \$30.

8bit tidbit: To have a quiet load for basic programs, type the following before using ENTER, RUN or LOAD:
POKE 65,0

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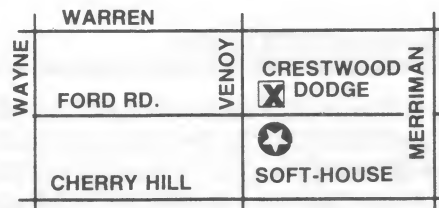


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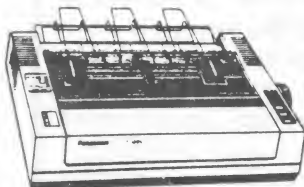
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Flying The ST

by Allen P. Bargen (c)

commentary on the world of Atari ST computers

Random thoughts to chase the winter blahs away. I hate snow and cold, it makes me long for spring, and summer of course. In this part of the world, we don't really get much of a winter, but we are occasionally reminded of the weather when a really cold day drops in for an unwelcome visit. So, I thought this might be a nice time to change the pace of the editorials, and look at some of the new entertainment ware hitting the markets about now.

As usual, these quickie reviews are intended to whet your appetite only. Don't rush out and buy a program based on the strength of these comments. If a program is really worth the gold you will have to plunk down for it, it should always pass one crucial test... yours! Look before you buy.

As is customary for gaming reviews here at the *Sanctum Sanctorum*, I assembled the expert team, stocked up on Classic Coke and plenty of Fritos, for an all-weekend go at the new stuff. My "experts," by the way, are myself (who can never get beyond the first level of anything), my friend and neighbor, who can figure out the complexities of any game he sees, and one 13 year old, who has absolutely the best eye/hand coordination I have ever seen. This kid can destroy virtually any alien, or any like thing a game can throw at him. He actually freed the maiden in *Barbarian II* the second day he had the game. I didn't even know there was one to be saved. Moral: Call the kid if you are in trouble, I can't help you!



Adventure Games



This is the only games area where I truly shine... I love to become the dragonslayer, and really get into adventures. The problem is that they are so time consuming, but to wile away a dreary afternoon, they can't be beaten. Some new ones that are first class are...

Dark Castle

One of the best games to come out for some time, this one combines the classic adventure with cunning and real addictiveness. Game premise is quite simple. You get to be a Nordic Prince of sorts who roams the Dark Castle in search of adventure. The game is full of surprises, and you will no doubt get to meet your maker a lot before finally winning Dark Castle. It rates high on my list of well written games.

Star Trek - The Rebel Universe

If you are one of the inveterate Trekkies out there, this game will provide many hours of entertainment. It is well written with excellent graphics and some interesting methods of calling up screen action. In this one, you can be Captain Kirk, Spock, or any other Enterprise officer. Well worth the price if you like interactive adventures.

Space Quest II: Vohaul's Revenge

This one is the sequel to *Space Quest*, and provides some interesting play. Not as difficult as most adventures, this one does offer a few surprises, as you become the alter-ego of "Roger Wilco," space hero.

Dungeon Master...

Ready for fun? This game is going to win my all round award for best planned, best playing game to come along for some time. Actually, we have been looking for this game for some time now. There was a demo of it floating around at least two years ago. The wait, however, was worth it.

You get to roam in the underground dungeons, fighting various nasties, while picking up items that will help you along your way. You pick a team of adventurers to help you in the game, by visiting the Hall of Champions, and making your selections from walls of pictures that you can regenerate to life. This game is truly addictive, and makes the ST proud with it's excellent use of the graphics abilities of the ST. Make a point of checking this one out.

Arcade Type Stuff...

Barbarian II

This was one of those games of skill where age is certainly not a benefit. I died a lot playing this game, only to watch my head unceremoniously kicked off the screen by that little green gremlin. My 13 year old professional scoffed at my lack of agility, and promptly showed me how it was done. 1-2-3-slash, hack, off with his head. (Smartalecky kid). This game is a sure winner.

Enduro Racer

As far as racing simulations go, this one captivated our combined attention with its very smooth screen play and joystick response. You ride a motorbike through your choice of race courses, and ride against computer opponents. Worth a look if you like simulations. We did!

Allen.....

Gunship from MicroProse: A Helicopter Simulation

ST Software Review by Bob Retelle

"That's not cool...that's *hot!*" So ends a US Army recruiting spot on TV which features the AH-64A "Apache" helicopter gunship. Now MicroProse Software has ported its "Gunship: The Attack Helicopter Simulation" to the Atari ST, as the latest in its line of extremely realistic aviation simulation games.

The Gunship Operations Manual goes far beyond simply giving loading and playing instructions for the game. This simulation is so realistic that before you can even get to the shooting part you have to read the chapter on "A Practical Guide to Flying Helicopters," followed by a two-part tutorial on "Learning to Fly a Helicopter." Then, Part II of the "Operations Manual" takes you into the "Apache Pilot's Manual," which covers "Aerodynamics and the AH-64A Apache"; "Weapons and Tactics"; and "Military Equipment on the Modern Battlefield." This last chapter is important so you can identify friends from foes in the heat of battle!

The Apache attack helicopter gunship was designed by Hughes Aircraft as a close ground support vehicle for US Army and Army Reserve units. It is especially effective against armored vehicles and anti-aircraft weapons. Gunship puts you at the controls of a simulated AH-64A helicopter, with just a few modifications for simplicity. Instead of

the normal two-man crew of Pilot and Gunner, you handle both the flight systems and weapons. The Inertial Navigation System is also somewhat more advanced than the real systems now in use, to make it easier to navigate your ship to targets and back to base. Finally, the gunship in the simulation is armed with AIM-9L Sidewinder air-to-air missiles. Current US Army Apache helicopters do not carry this kind of air defense capability, but in the opinion of the designers of the game, the threat of opposing Soviet helicopters will require such a defensive response. They have armed their gunship with the Sidewinder missiles, even though these are Air Force weapons and current US Army thinking is leaning toward using an Army missile with lesser capabilities on real Apache helicopters (isn't that typical?).

Gunship comes on two disks and allows you to use two disk drives to avoid disk swapping. There is "copy protection" in the form of information contained in the Operations Manual, which must be supplied at different times during the game. One of the first screens you are presented with is a "Vehicle Identification" test. Using the information in the manual, you must identify a randomly chosen picture of an enemy or friendly vehicle. If you make an incorrect choice, you are limited to flying a



training mission. During actual missions, you will be given a password at the pre-flight briefing. The countersign for each password is given at the bottom of the pages in the manual. When you return to your base, the password will be transmitted to you by radio. If you do not supply the correct countersign, your gunship will be shot down and the mission scrubbed.

There is an elaborate keyboard overlay which fits around the ST keyboard and identifies the keys which control the different offensive and defensive systems of your helicopter. Unfortunately, this overlay tends to be a little bit "floppy," and has the sometimes fatal habit of slipping off and blocking critical keys at exactly the wrong moments. Tape on the corners can help save your missions, not to mention a simulated 7.3 million dollar helicopter!

Flying an Apache helicopter takes some practice. It's far different from hopping into a flight-simulated Cessna airplane and barnstorming over San Francisco Bay. A helicopter has two main control systems which control "up and down" hovering, and "forward and back" flight... (yes, a helicopter can fly backwards, as well as sliding sideways to the left and right). Flying a helicopter requires a constant balancing of these two control systems, as they tend to interact a great deal. I've heard this feat compared to "rubbing your tummy and patting your head at the same time."

Unfortunately, one of the few flaws in this simulation is the choice of control mechanisms by MicroProse. The joystick controls the "cyclic" motion of the rotor which produces forward thrust to move the helicopter ahead, allowing you to steer with the joystick (the mouse can also be used for this control).

However, the other important control system, the "collective," is controlled using the four keys on the outer right edge of the numeric keypad. These keys control the amount of pitch on the rotor blades, and thus the height at which the helicopter hovers. This control needs to be adjusted during flight to compensate for speed and ground effects, but it can be rather difficult to take your eyes off the screen and your hand off the joystick to find the right key to press. In battle, it could be fatal!

I would have preferred a system such as was used by Cosmi in their "Super Huey" simulation, where both the cyclic and collective controls were adjusted by the joystick, using the fire button as a sort of "shift key" to switch between control systems. At the very least, I would have liked to have seen them use the mouse to control the collective. Of course, with practice you can use the keyboard control pretty effectively. It's just a matter of getting used to finding the right key at the right time.

The Apache Gunship in this simulation is

heavily armed with several different weapons systems, each with fairly specialized characteristics and intended target types. The Sidewinder missiles are used to defend against Soviet "Hind" helicopters, while the 2.75" FFAR rockets are used for unguided barrage attacks against ground troops and "soft" targets. AGM-114A "Hellfire" anti-tank missiles are laser-guided weapons with armor piercing warheads.

Using a "target designating" laser beam, the missiles are deadly accurate, but are only effective against armored vehicles and bunkers. Finally, the 30mm Chaingun cannon mounted on a turret beneath the nose of the helicopter can be used against most targets, including enemy helicopters, although its effective range is less than the laser-guided missiles. The cannon is aimed using a simulated IHADSS targeting helmet...you look at a target and it's dead.

The weapons systems use a "Target Acquisition and Designation System" to lock the various guided weapons onto a target, allowing the pilot to designate a target, then resume flying the helicopter, while the ballistic computer continues to track the enemy.

Also in the Apache's arsenal are several defensive systems, including radar and infrared jammers, and chaff and flare projectors to confuse incoming enemy missiles. After reading the background material included in the Operations Manual, I'm sure glad these machines are on *our* side!

Gunship lets you choose among several levels of difficulty in the simulation, all the way from training in the USA using dummy ammunition, to duty in Western Europe facing frontline Soviet troops. Other factors, such as weather, temperature and elevation can be adjusted to give increasing difficulty as well as the opportunity to fly regular, volunteer, or hazardous duty missions. If you survive and complete your mission, you may be promoted in rank and given service medals recognizing your bravery in combat. If you crash or get captured, well...you can always boot up the game another day!

The level of detail in this simulation is extremely high, the graphics are very good, and the sound, while a little monotonous, is at least realistic. The manual gives a fascinating look at the state of the art in attack helicopter weaponry, and the actual play of the game is very involving. Gunship is highly recommended for anyone who enjoys detailed aircraft simulations and wargames.

Gunship is available from your local Atari dealer and requires a color ST system with at least 512K and one disk drive. List price is \$49.95, although I paid only \$38.95 locally.

Universal File Selector for the ST

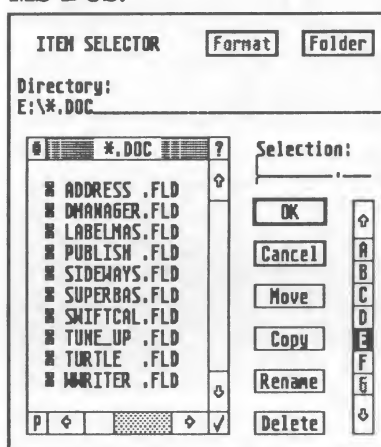
Review by Byron Johnson (GLASS)

The Universal File Selector by Application and Design Software is a replacement for the GEM file selector. It adds many commands, fixes some bugs in GEM and allows much easier file operations between any drive/directory. This program is very easy to install and use and makes file handling much easier. Simply copy Universe.prg into your AUTO folder and it installs automatically on boot-up. Whenever a program calls for a file operation, the Universal file selector appears instead of GEM's file selector. It comes with a desktop accessory to give access to your files at any time. They also include a copy of ST1_RAM, a RAMdisk and print spooler from ST Informer and a nine-page manual on the disk. I heartily recommend this program, and at \$15.95 everyone should own a copy.

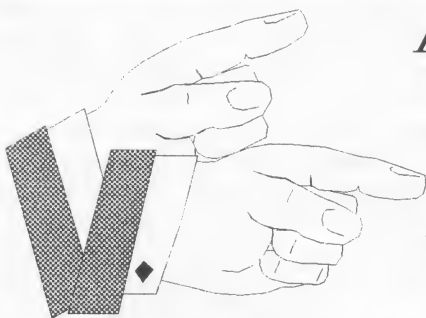
Here's a list of the features: **Copy files/ folders:** copy a file/folder to any drive or directory; **Move files/folders:** move a file/folder from one directory to another without copying it first and then deleting it from the old directory; **Rename folder:** actually creates a new folder, copies contents into it, and deletes old folder; **Delete:** delete one file or multiple files using wildcard selection; **Format:** format disks single- or double-sided, 9 or 10 sectors, 80-82 tracks; **Folder:** creates a folder to any drive from any drive; **Disk Status:** "?" finds bytes free, total

bytes available and folders used; **Directory Print:** "P" prints any directory; **Lock/ Unlock:** "✓" locks files to prevent accidental erasure.

Horizontal scrolling allows checking bytes used, date and time when a file was created. When you see how great smooth scroll is you'll wonder why Atari never fixed GEM. Vertical scrolling gives smooth scroll through the directory. Wildcards allow group delete, copy, move and lock/unlock. For example, Copy ST*.DOC copies all files starting with ST and having a .DOC extension. This makes life easier, especially if you're familiar with MS-DOS.



Universal Item Selector from Applications and Design Software, 226 NW "F" Street, Grants Pass, OR 97526.



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Software Report for Atari 8bits and ST/Megas

Compiled by John Nagy

The hottest recent game for the ST is *Dungeon Master* from FTL Games. Message bases around the country are buzzing with conversation about it, and it may be one of the best ST sales tools this year. It's a role-playing game, selecting and guiding four characters through the Limbo Dungeons, searching (and fighting) for the FireStaff. It plays in real time, so you have to think fast while choosing actions and responses. The graphics are outstanding and the sound effects (digitized, of course!) are thorough, realistic, gratifying and amusing. FTL, Box 112489, San Diego CA 92111 (\$39.95, color ST).

If you've noticed many of the best ST (and even 8bit) software titles have their origins overseas, you are *not* wrong. The Atari ST is the darling of the European continent, and with 80 percent of the Atari computer sales in Europe, we have to expect 80 percent of the software development is also European. For some unknown reason, much of the software is either not being imported to the US or is brought so late after original release that the pirate "distribution" proceeds the commercial availability by up to a year.

Steve Dunphey (from the Rhode Island ACE) tells me this summer will bring "Barbarian II," retitled "DeathSword" for US release. It is from Palace Software, licensed by Epyx. "Captain Blood" is a space adventure that may be the most violent and realistically gruesome game ever. It's available in France and features wonderful digitized sound effects...if you can take it.

Rampage and Star Wars versions that are 100 percent faithful to the arcade are also available overseas. Ironically, a major distributor in England is "US Gold," which is actually Activision selling products there that we would kill for here.

Steve suggests subscribing to Popular Computing Magazine, a 48-page *weekly* from England featuring about 75 percent ST material, with a scattering of Atari 8, C-64, and Amiga (the "joke" machine in England...the ST outsells it 5 to 1). It costs \$65 US (remember it's a *weekly*!) and they take VISA...at 011-441-834-1717. Also, try 011-441-899-4233, the number for Sygnus Trading Co., a dealer that has sold Steve (far too?) much foreign software on his credit card with very satisfactory delivery. English pounds are trading roughly 1/\$1.50. Be sure to tell us what you find!

New from Migraph: Easy Tools, a companion to Easy Draw (Version 2.26 or later). Tools gives you additional power to do things that were either impossible or too cumbersome with Easy Draw alone. Rotate the image around any point or perspective, do size inquiry on any line, copy images, put a

smooth curve through polypoint lines...\$49.95 list.

Coming from Atari: G.O. Graphics "DeskSet," expected this spring/summer, another desktop publishing system.

A public domain program hazard that has plagued the MS-DOS world for some time has spread to Atari (and Amiga). The Trojan horse programs (designed to look like a demo or game while actually doing malicious damage to your equipment, disk or hard drive) have until recently not been a concern for us Atarians. However, popularity must breed contempt, because "They're here!" Now an even more insidious type of Trojan horse is the Virus, a program that does its damage so gradually that you almost can't test for it. "Manhattan Dealer" appears to be an ST game, imported from Europe, but it has a hard drive format virus in it. Beware. And spread the word, particularly if you have a similar experience with a different program, let somebody know *quick*!

8bit Public Domain

Last month, I mentioned Daisy Dot II, a new public domain package that built on the already impressive printer program by Roy Goldman, Jr. To clear up a point of confusion, another author had released a public domain program which he also called Daisy Dot II, built on the concepts in Roy's original, but he has graciously renamed his effort "Dot Magic" to prevent confusion with Roy's own fine and even more capable followup.

To put it simply, Daisy Dot II takes control of your Epson-type printer and delivers the closest thing to laser printer definition you will ever see from a dot matrix. Even the now dirt-cheap but capable Panasonic 1080 will make documents suitable for framing. Unlike the original Daisy Dot, this one is not written in Turbo-BASIC, but rather in C, which opens its use to 800 owners and SpartaDOS users. Additionally, it now has the capability to manipulate Graphics; change fonts at any point (even mid-word!); flush left, right, or center lines (really tricky in proportional fonts!); underline; proportional tabs even. Yike.

And there is more. A 24-page manual, designed to be printed using Daisy Dot II, is a tour-de-force of the capabilities of the program, and a marvel to look through. And, yes, it's public domain. I have over 20 fonts collected so far, and more are being made and traded on CompuServe and GENIE. It even comes with a great set of utilities to manipulate text or fonts. The only downside of Daisy Dot II is that, like the original, you must preformat your text and print it to disk, as Daisy Dot can't deal with raw text data. Some word processors can't do

A Layperson's Intro to Telecommunications

by Arlan Levitan, Condensed by M. Olin

(This article is reprinted from an article which appeared in the December, 1982 MACE Journal. Levitan's expertise in this subject is the basis for his regular contributions to Compute! Magazine. Some of the information in the original article is no longer completely accurate after five years of technical advancements and has been updated by M. Olin.)

Telecommunications; that's an awfully big word. What does it mean?

Telecommunications is a field covering a lot of ground, but for our purposes, we can consider it to be the act of sending information back and forth between computers over regular telephone lines.

Well, I don't see any real use for that...

Telecommunicating means being able to access a whole new world of information. First of all, there are free computer bulletin board systems called "BBSes" throughout the country. A BBS is an electronic bulletin board. Other people with computers can call in and leave and/or read messages. Many BBSes are devoted to specific areas of interest. For example, the MACE bulletin board and others like it, tend to be devoted to discussion about Atari computing, although the discussions can be wide-

this (like the original AtariWriter cartridge). And that 24-page manual? It took over two hours to print, since the printer is in graphics mode, moving slowly for maximum density and clarity. Still, *get this program...* unless you are using a ProWriter or some other non-Epson standard-ish printer, you will be pleased as punch.

Roy Goldman Jr., the author, also will send you the program disk plus a complete (pre-printed!) manual for only \$10. That almost beats the download charges on the major services, and saves you hours of setup and printing. But order yours soon, since young Goldman will soon be old enough to drive and may not have as much time to do his remarkable -- and very mature -- programming. Roy Goldman Jr./ Daisy Dot II, 2440 South Jasmine, Denver, CO 80222.

Another 8bit public domain jewel, "Magic," is a fairly useless, but fascinating, graphic demo. You can set a slew of different patterns rolling by hypnotically, freeze them, change them and set colors roaring through them at your whim. I used it to make a background video tape to roll at a party while the music played...and was amazed to watch guests sit and watch the thing, mouths agape. Ok, I guess it's not useless. Find it and add it to your show-off disk.

ranging at times. Many of these systems also have programs available on them for downloading and facilities for uploading.

Wait a minute! You're starting to lose me with those last two terms.

Sorry...it's all part of the jargon people who access BBSes tend to use. It's really pretty simple. The term download refers to capturing a program or information that is being sent to your computer by the BBS, and then usually saving the information on disk or simply printing it after you've logged off (left) the system. On the other hand, if you were to send a program from your computer to the BBS, we call the process uploading. You can take downloaded programs and later run them on your computer. It's a lot easier than spending hours typing stuff out of computer magazines. The free BBSes can give you a constant supply of new programs for your computer for the cost of a phone call and keep you in touch with what's new in the world of Atari and telecommunications in general.

So, are all the bulletin boards around devoted to Atari?

No, not at all. Although the number of Atari boards is growing, there are thousands of other BBSes in the country dedicated to topics ranging from religion to the space program.

I've seen ads from CompuServe, The Source, and other information services in the computer magazines. What are these services all about?

One of the disadvantages of the bulletin boards is that most systems will only handle one caller at a time. They are also usually limited as to the amount of disk storage available on them. The big information services run fairly large computer systems that can handle hundreds of users at one time. This makes it feasible for them to offer such services as on-line encyclopedias, banking by computer, shopping at home, etc. The amount of data they have is truly staggering.

That sounds great! Are those services free?

No, the information services charge an hourly rate to be hooked up to them. Some charge membership fees to get a personal identification number (PIN) that will let you access their system. That isn't as bad as it might seem. If you compare their evening hourly charges to the cost of calling a board that is in another state, the information services can actually provide a good value for the money, especially in view of all the different services they offer.

What do I need in the way of equipment?

Assuming you already have an Atari computer, you'll need a modem (pronounced MO-dum) and possibly an interface if the modem does not connect

directly to your computer. Almost all modems will connect directly to the ST computers, and there are several Atari modems which will connect directly to the 8bit series, or you may need to acquire an "RS232 compatible" interface.

Just what is a modem?

A modem is a piece of equipment that converts digital data into an analog signal and vice versa. Information in your computer is stored there in numerical format. When you're telecommunicating, the computers on both ends of the phone connection have a modem attached to them. The modems can take that numerical information and modulate the numbers into an audio signal. (If you were to listen in on the phone line, you'd hear a high-pitched whistle.) That's how they send information. The modem on the other end "listens" to that signal and demodulates it back into a numerical form again that the computer can understand. That's where the name comes from...the translating device MODulates and DEModulates...hence, MODEM.

But what's the RS232 interface for?

Some modems are made exclusively for the Atari 8bit computer and do not require an interface. Modems that are made to work with other computers will usually have connectors that are RS232 compatible, meaning all the pins are wired the same and will work on any computer that has an RS232 port. Since 8bit Atari computers do not come with the RS232 port as standard equipment, the 850 (or similar) interface is required if these modems are to be used. The interface plugs into the computer, and the modem then plugs into the interface. RS232 is actually the name of a technical paper presented at an electronics seminar many years ago. The paper talked about establishing standards for equipment like modems. It even defined a type of plug with 25 separate connections on it. The plug itself came to be called an RS232 connector.

The 850 Interface manual refers to its connections as RS232-C. What's the difference?

The "C" just stands for "compatible." Of the 25 pins in a full RS232 plug, only about three to eight of them are ever really needed for our purposes. That's why the plugs on the interface module are not true RS232 plugs. Most modem cables for the Atari are RS232 on the modem end and RS232-C on the interface end.

Tell me about "Baud" and those other terms.

Baud is the measurement of the transmission speed of a modem. Most commonly available modems operate at 300 and 1200 baud, with 2400 and 9600 baud becoming increasingly popular. This means they send information at the indicated rate of bits per second. Due to the way data is transmitted, it takes 10 bits to send each character of

information. Hence, a 300 baud modem will receive and transmit data at 300/10 bits (30 characters) per second.

What about "answer" and "originate"?

When two computers are talking to each other using modems it's like two people talking over the same phone line. If both people had voices that sounded exactly the same, it would be impossible to tell what was being said while both were talking at once. The modems have to talk to each other using different voices to make sense of what's going on so one modem uses a higher pitch than the other. The modem using the higher pitch is said to be in answer mode. The lower pitch used by the other modem is the originate mode. Many years ago, the people who made modems agreed on the exact frequencies of both answer and originate voices so different brand modems would know exactly what to "listen" for.

What is half and full duplex?

Duplex describes the type of "conversation" going on between the modems on a line. Imagine two real people talking on the phone again. Both people can't talk to each other at the same time and make any sense of what is being said. When information can be going in two directions at once we call it full duplex. Imagine the same two people using two orange juice cans connected with a string instead of a phone. Only one person can talk and the other must listen until the speaker is done. Then the cans must be switched from ear to mouth at one end and vice versa at the other end before the conversation can be continued. This is an example of half duplex. Most telecommunications today are done in full duplex mode.

Have we covered everything I need to get started?

Just about. Like any other piece of computer equipment, you will need a program to control the modem/interface. Currently popular terminal programs include Express! and Amodem for the 8bit computers and Flash!, ST Talk, ST-Term, UniTerm and VanTerm for the ST computers. There are many programs available in the public domain, such as Express! and Uniterm, so make sure you check with your club disk librarian.

What does "terminal" mean?

It's just a term describing what's at the end of the whole connection. Look at it this way: your computer is at one end of what we call a communications "link." At your end, you have your computer which connects to your interface, which in turn connects to your modem. The modem connects to another modem, via the phone line, which is connected to an interface which is connected to the other computer. The computers are at the very

Learning Telecommunications Bit by Bit

by Jerry Cross

Getting Started

Well, you read last month's article and now you are convinced that you should jump into telecommunicating. So where do you start? You picked up a few magazines and began looking for a modem, only to be totally confused by the vast number of models. What's best for you?

A lot of folks have already gone through this dilemma. They usually pick up a modem and spend the next few weeks figuring out how to hook it up, another week or so figuring out the software, and more time learning how to download and upload. By this time, they have figured out how to leave the local sysop a message for help, only to learn they were doing everything wrong from the beginning!

The purpose of these articles is to try to give you an idea of what features are available so you can choose the modem and software that is right for you. The wrong decision will end up costing you a lot of money, either because you spent too much or didn't spend enough, causing you to spend even more to buy the proper equipment/software. For you experienced users, I will try not to bore you with all of this "common knowledge" stuff, and give you a few hints you may not already know. Ok, let's get started.

Is It Really like a Hayes?

The first mistake people make is believing magazine articles or salesmen who state their modem is "100% Hayes Compatible." A few years ago, experienced sysops would simply tell you "If you want a Hayes, buy a Hayes." Many of the modems that

end of each side of the link. They *terminate* the link... Presto - terminals!

Where else might one expect to find a modem in operation?

Many people today who think they have never used a modem would be amazed if they knew how prevalent these devices are! Twenty-four-hour banking machines connect to the bank's main branch each time a transaction is made. This is how the machine "knows" not to allow you to withdraw more money than you have in your account. Grocery store cash registers and other such accounting systems regularly communicate transactions immediately to a larger computer located in another room, or even another building. Many large department stores control their heating and air conditioning equipment remotely via computer connections over the phone lines, and automobile service centers can now connect the sensing equipment that controls your engine to a computer system that will allow an engineer miles away to diagnose the problems with your carburetor or emissions system!

make this claim are only part right. They may support the popular "AT" commands that are supported by many software packages, but when you take a closer look they do not support *all* of them. The ones that are left out are sometimes critical to your programs and may prevent you from doing everything you want. For example, a few modems out there do not have Auto-Answer, but do use the AT command set; the price sure was nice, so you bought it. Say goodbye to your future BBS plans!

Another "Hayes compatible" model I know of claims to be "Hayes hardware" compatible, but it uses its own internal software to do the dialing and does not support the AT commands. Another poor modem buyer bites the dust! The best advice for new modem buyers is to ask a lot of questions before you buy. Start out with your local computer clubs, and find the name of a sysop or two. Most BBS sysops are more than ready to answer your questions and have lots of experience in telecommunications. Be sure to find out if the software you plan to use supports the modem also. This is especially important with Atari 8bit users.

Over the past five years I have experimented with a lot of modems. It was like "Pavlov's dog" for me. Just say the word "modem" and I was reaching for my billfold. I currently own six modems, and each has its advantages and disadvantages. Here are a few examples:

Signalman Mark XII.

Supports AT command set and works with most of the programs I have. However, this "Hayes compatible" modem does not support the DTR (Data Terminal Ready) pin. This makes it extremely difficult to use on a BBS. (I will cover this in detail in future articles.) Also, it does not have DIP switch controls for many Hayes features. Example: The modem is preset for auto-answer. If you leave the modem turned on and a call comes in, the caller is treated with a loud squeal in the ear. Also, this modem only supports five of the standard 16 registers on the Hayes, but it does support the most often used ones.

DeskTalk II 2400.

Also supports all of the Hayes AT commands, but lacks some of the DIP switches. Again, this makes it difficult for some terminal programs to properly configure the modem. It does come with an additional phone jack so you can plug your phone into it. This modem had a bad overheating problem and required me to set it by itself so it would be properly ventilated. In the summertime, this was a bad problem.

Supra 2400

This is my new "baby." About 1/3 the size of the other modems, it also features the complete AT command set, plus several others. Again, this does not come with DIP switches and must be configured through the software. It lacks a volume control for the speaker, but that's a minor problem. Another excellent feature, though rarely used, is a built-in synchronous clock support on the RS232 plug. I'm not sure if synchronous transmission is supported though.

Hayes 1200

What can I say; this is the modem everyone tried to copy. The main advantage is that it's a well-built modem. The additional money you spend goes for better line filtering and additional features. The Hayes series of modems were built to take a lot of use. That is why you see these modems used in many business computer systems. Hayes has set the standard in modems just like IBM did with computers.

Atari XM301/1030

The XM301 (and the earlier version 1030) are excellent modems for folks looking to experiment in telecommunications without spending the bucks. It plugs directly into your 8bit computers (sorry, won't work on the ST) and supports most of the features of other modems, i.e. AutoDial, Auto Answer (not available on the 1030), and costs under \$45. But it will only support 300 baud transmission. Many BBSes are currently switching to 1200 baud use only because of the time it takes to download programs at 300 baud. I will cover this modem in detail in future articles.

MPP 1000c.

Do yourself a favor and stay away from this modem...*please!* This modem plugs into the joystick port of your computer, freeing up your I/O port for other devices like a printer interface. But now that you are using the joystick port, you will need a special device handler. This is a short program that tells the computer how to "talk" to the modem, much like the DOS.SYS file tells the computer how to communicate with your disk drive. The problem here is the MPP handler is huge, and many terminal programs do not have the room. So you are stuck using Supra's SmartTerm software (ugh!) or MPP Express. BBS programs are a nightmare. I know of only two, and both are loaded with bugs. Save your money to buy a better modem if you can.

Internal or External

This is mainly for the folks using non-Atari computers. An internal modem is simply a circuit-

board that plugs into the expansion slots of your computer (like the IBM or Apple II). They use the internal power supply of the computer, and most come with their own built-in software. One advantage of such a modem is the cost. By not paying for a case, power supply and cable, you save money. You have instant access to your modem at the touch of a button, and the internal modems were designed to use all of your computers features.

But what if you want to use your modem with your Atari, or what if you upgrade to a better computer? Your internal modem can only be used on that computer. If that's the case, you will want to get an external modem. These modems are designed to work with any computer that uses the RS232 standard of connecting your modem. Which ever way you go, be sure that the software you plan to buy will work with that particular modem. Internal cards are even more difficult to shop for.

Ok, by now you got the modem you want picked out and are ready to go. Now you must enter the scary world of...making a cable!

I am convinced that the computer manufacturers of the world have conspired with cable manufacturers to make life miserable for us computer owners. Most modems have a handy-dandy, standard, RS232-DB25 pin connector on them. If you own an ST, all you need to do is buy a standard RS232 cable (male to female).

Other computers are more difficult. I had an Apple //c once. It had a DB5 plug (5 pins) on the back. There are 25 pins on a modem! The same goes with dozens of other computers. And what about the Amiga? Early versions had a male DB25 plug. When the later versions came out, the gender changed to a female plug. I wonder how much of a kick-back the cable manufacturer got for that?

Atari 8bit owners have a harder time. Not only do they need a cable (nonstandard, of course), but an interface, too. They can take the coward's way out and buy the new Atari 1200 baud modem, but that would only prove they didn't read the first half of this article. (Serves them right!) And the cost of those cables vary too. You can get a DB25 cable from anywhere between \$6 to \$30.

You can build your own very quickly using ribbon cable and quick connectors available from Radio Shack. But, if you have one of those weird types of computers, it's not that easy. You need to find out what pins to connect, and you must find someone who can solder.

Next month, I will give you all the information you need to build a cable, plus some tips on installing a phone line yourself (yes, you can!). So start shopping for that new modem, and I'll see you next month.

Memory Upgrades for Atari ST Computers

520ST, 1040ST and 520STfm

Up to Four Megabytes on ONE Board with NO SOLDERING!!!

Expand your St's memory to ONE Megabyte, TWO and ONE-HALF Megabytes or even FOUR Megabytes with the tech-specialties plug-in memory modules.

520ST modules use 256K DRAMs for upgrades to 1 MB and 1 Megabit DIPs for 2-1/2 and 4 MB upgrades. All boards are fully socketed and the expandable boards can be configured for either 256K or 1 Mb chips. This means that you can start by upgrading your 520 to one Megabyte and later move up to either 2.5 or even 4 Megabytes--the maximum for any ST, even the Mega! Installation is completely solder-free and comes with detailed illustrated instructions. All upgrades come with a one (1) year limited warranty.

Upgrade your 1040ST or 520STfm just as easily as a 520ST! Send us your 520STfm and we will install the second bank of memory

520A: Socketed, no RAM	\$129
*520B: 1 B, socketed	\$229
520C: 25 MB, socketed	\$495
520D: 4B	\$845
*520-1: 1 B, non-expandable	\$169
1040A: 1 Bank sockets, no RAM	\$110
1040B: Fully socketed, no RAM	\$149
1040C: 2.5 MB + 1 bank sockets	\$495
1040D: 4 MB	\$845
1040K: Kit w/all parts, no RAM	\$ 68
Clock Option on Memory Board	\$ 30
Clock, stand-alone 520/1040	\$ 38

Prices of populated mem. boards are subject to chip adjustment to meet fluctuating DRAM prices. As of today (02-18-88) \$13.00 for 1 Mb, \$2 for 256k chips. That translates to \$32 for all 256k and to \$208 per bank for 1 Mb equipped upgrades!

complete for only \$119.00 plus shipping. Or install one of our 1040 memory boards and upgrade your ST to 2-1/2 or even 4 Megabytes.

Limited space above the 1040 mother board prohibits the use of conventional sockets in one bank. Optional "ZERO Height" sockets allow you to have this bank socketed too, so you can plug in or exchange the expensive 1 Mbit chips. The "ZERO-Height" socket kit is also available separately so you can install it at any time!

All memory boards fit under the R/F shield. The CPU is completely available for any future enhancements (blitter, coprocessor, etc.). No soldering is required.

Upgrade any ST to 2 or 4 MB with no trace cutting and no additional parts except for DRAMs. All boards are also available

with an optional realtime clock, and all boards are tested for continuity. Populated boards are tested with chips installed.

Expandable HARD DRIVE Kits:

1. 9.5" x 6" x 15" with full SCSI Interface
 - room for to 5 1/2-height hard, floppy or tape drives
 - 150W Power Supply
 - controller for up to 4 hard drives for limited time only
 - mounts on floor, under desk or on desktop

No Drives--Install your own	\$385
10 MB \$485	30 MB \$675
20MB \$595	40 MB \$845

2. 18" x 15" x 3", single port host adapter
 - room for 2 1/2height drives
 - 65 W power supply
 - prepared for up to 2 half-height hard disks
 - can be placed under monitor

No Drives--Install your own	\$385
10 MB \$485	30 MB \$675
20MB \$595	40 MB \$845

Host Adapter Cards plug directly into the DMA port, have full 348 mA drive capability, come standard with a 6' cable, up to 20' and additional daisy chained connectors optional.

1 port \$ 79	full SCSI \$119
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tech-specialties Co.

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(713) 590-2068 and 590-3738

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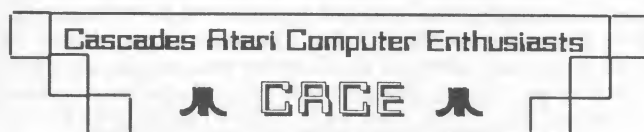
Tech-Soft, 460 Stirling Hwy, Suite 37
Claremont, Western Australia 6011
Tel.: (09) 385-1765

Canada (East)

Computer Country, Paul Wilson
148 Waterloo Street, Stratford, Ontario,
N5A 4B4 Tel.: (519) 273-1011

West Germany

INGENIEURB. Dipl. Ing. M. Krompasky
Schillerring 19, 8751 Grosswallstadt
Tel.: (06022) 24405



Cascades Atari Computer Enthusiasts (CACE) is the Atari club in and around the Jackson County area. The main purpose of the club is to help inform new users and to promote the use of Atari computers in the community.

President	Brent Fisher	764-4599
Vice-President	Bob Kingsbury	789-7533
Secretary	Joe Cripps	782-0199
Treasurer	Scott Boland	784-9246
Member at Large	Jim Boyce	522-4074
Editor	Jim Boyce	522-4074

The current membership dues are \$10.00 per year, or \$14.20 if you wish to subscribe to Michigan Atari Magazine, and are payable at any of the CACE monthly meetings or by mail. Club membership includes access to the entire club software and publication libraries, along with a monthly newsletter. Any written communication with CACE or payments by mail should be sent to: CACE, P.O. Box 6161, Jackson, MI 49204. Our meetings are held on the second Sunday of the month, from 1pm to approx. 4pm. The meetings take place at the Boos Recreation Center, Loomis Park, 210 Gilbert St., Jackson, MI.

Thanks Column

Ken Huhman has taken the library over and is the new publicity chairperson. Tim Hotchkiss is the new Computer Fair chairperson. Craig Schaff has agreed to help get the CACE Picnic planning started. A special note of thanks to Bob, our man with the library. He was our first librarian and did a fantastic job starting with a concept and building it into a library with many fine PD programs. We will miss you.

Meeting Minutes for March, 1988

Well, hello to all. Sorry I missed last month's minutes. We had a whopping five members at the March meeting. I hope this was due to some kind of new strain of flu going around and not indicative of your level of interest in the club. I, for one, am tired of working for a membership that shows this level of interest in the club. If something isn't done soon, there will be no more club. Attend the next meeting, if only to show there are still interested members.

The meeting was opened with the treasury report: petty cash \$173.67, savings \$502.02. We are still trying to organize a Computer Fair. Tim Hotchkiss has volunteered to be the chairman for this project. He informed the group he has already talked to the folks at Westwood Mall, and they informed him that a general computer show is planned for October and they are working on fitting our Computer Fair into a good time this summer. He also is planning on talking to the Battle Creek Club about joining with them to host a fair at Lakeview Mall.

We will now be sending our articles to MAM for inclusion with the other user groups in Michigan. Anyone wishing to receive MAM should contact Jim Boyce. Jim Boyce noted he has not received any of the newsletter surveys that were included in last month's newsletter. Jim will compile the info into a single report. We need these surveys returned so we can learn what the memberships interests are and to better serve you.

Brent Fisher announced that Ken Huhman has volun-

teered to take over the duties of librarian. In closing, I would like thank Tim and Ken for volunteering their time and efforts and would encourage the other members to do the same. See you at the April Meeting.

May Article Deadline

Please note, because of our new affiliation with Michigan Atari Magazine, all articles must be in by the 13th of the month. This is so I can meet the MAM deadline.

Member-at-large Report

Since Scott, our hard-working treasurer, is going to be out of town for a few months, I have become your "keeper-of-the-cash" until his return. In turning the books over to me, it was discovered the club had a surplus of 16 dollars. As anyone knows from watching Scott in action at the meeting, his life can get pretty hectic, and it was agreed upon by the board that something did not get entered in the books during a disk sale. Since receipts are not given at disk sales, this type of oversight could easily happen. So, the club has 16 more dollars than originally thought. That's it from your Member-at-large for this month.

Editorial Blather

So what if there is an inch of snow on the ground! Spring is coming - at least it better! I have the worst case of cabin fever that I have ever had in my life. But life goes on and so does CACE, as a matter of fact it is going quite well for the club, I am pleased to report. We have a new chairperson for the Computer Fair and we have a volunteer for the Picnic and we have a chairperson for Publicity and we have a chairperson for the Library and none of these people are Board members (see the thanks column). With that kind of participation from the members, this is going to be a great year for CACE. Survey reports are coming in and when the results are analyzed, a report will be printed in the newsletter and we will proceed from there. This last meeting made me feel really good about what is happening in the club and I believe this is going to be a fun happening. With that I will say "Keep up the good work people!"

Jimmie Boyce

Fishing Around

Good day, People. How are you doing this fine Spring day? To begin, I must admit I'm a bit disappointed we didn't have a bigger turn out last month. I'll just have to see you all at this month's meeting.

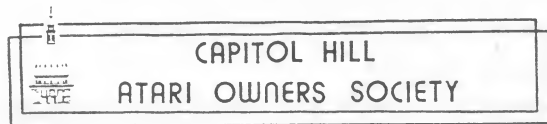
The Board has decided to change the format of the meeting. We'll start the meeting by having the Treasurer open for dues collection and MAM sign-ups. While this happens, a demo will be running and the Librarian will take orders for PD software.

This will take place for approximately 30 minutes, after which we will commence with the meeting. After the drawings, we will have another demonstration, and the Librarian will fill the orders taken at the beginning of the meeting.

Now that the business is out of the way, I'd like to thank Tim Hotchkiss for taking the Computer Fair chair and also Ken Huhman for taking on the task of Librarian. One other giant Thank You to Bob Kingsbury for doing so much as Librarian.

I suppose this is about it for this month, so I'll see all of you at the meeting.

Brent Fisher



CHAOS is the Capitol Hill Atari Owner's Society, serving the Atari community of the Lansing, Michigan area. The Campus Hill Atari Owner's Society is the Michigan State University chapter of CHAOS. Membership dues are \$15.00 per year and entitle members to a 1-year subscription to the Michigan Atari Magazine, a free disk from our regular library and access to our libraries and other resources. Dues may be paid at any CHAOS meeting or by mail. If not using an official membership application, please include your name, address, phone and a list of your equipment and interests.

Sysop John Nagy and CHAOS invite you to call one of the country's finest BBSes at 517-371-1106, 300/1200/2400 baud, 24 hours a day (Atascii/Ascii) serving both 8 and 16 bit Atari computers. Send inquiries regarding CHAOS, mail orders, memberships, to: CHAOS, PO Box 16132, Lansing, MI 48901.

General meetings of the membership take place several times a year. 8bit and 16bit Special Interest Group meetings take place monthly. The S.T. Interest Group meets on the second Saturday of the month. The 8bit S.I.G. meeting, for 400/800 and XL/XE owners, takes place on the third Saturday of the month. The meetings take place at the MSU Physics-Astronomy Building, Physics Road, Room 118. Meetings begin at 10 a.m. sharp and last until 1 p.m.. Members and guests are welcome to any SIG meeting that interests them. To get to a meeting, take East Grand River to the Collingwood Entrance for MSU. The first available left turn is Physics Rd. The Physics-Astronomy Building is about 1 block from the corner, on the right side. Park in the gated lot just past the building.

Illegal copying, or any violation of copyright laws is not condoned or allowed at any CHAOS-sponsored function, including the club BBS.

Elected and appointed Officers of CHAOS

President	Leo Sell	349-0404
Vice Pres	Guy Hurt	484-7675
Sec'y-Treas	Gary Ferris	393-2593
8bit Rep	Bill Johnson	675-7166
16bit Rep	Brian Goluska	332-4415
Library Mgr	John Baker	641-4430
Gen. Pub Lib	Innaiah Pothacamury	332-0558
ST Publ Libr	Chet Kapusinski	676-4539
XL/XE SIG Co	Guy Hurt	484-7675
ST SIG Coord	NEEDED!!!!	
BBS Sysop	John Nagy	487-5646

The CHAOS Download

Our 2400 baud Smarteam modem is back and performing perfectly on my revised M-5 software. Blaze along with us at incredible speeds...300/1200 are still welcome, of course!

Changes, as always, are in progress. This time, it's to allow ST users more fully-compatible operation, including elimination of sector count (what's a sector???) and ability to use Ymodem and also to be able to pre-select ST or 8bit only files. Support for 80 column has been in place for awhile and will be increased throughout the ASCII menus. Atari mode 8bit users will continue to enjoy our graphic menus and cartoons.

A game of Clue! is in progress on our Sights & Sounds message base. Drop in and read along as 7 players role-play Star Trek (both old and new) characters and settings while trying to unravel a dark mystery. Joel

Kilgore, Sr. and John Baker are busy as bird dogs, working on indexing the hoard of uploads we have been getting from all over the country. Be sure to read them, as well as go back through the Library message bases every week or so. Fresh uploads will have their descriptions unlocked for public view only after checking by the librarians. So, reading New only will miss these messages. Check 'em out, it will save you downloading and experimenting time.

Til next month, see ya in chat!

John Nagy, Sysop, CHAOS BBS (517)971-1108

President's Corner

April!!! It's a cold and blustery March day as I write this. Looks more like winter than spring. Hopefully, by the time you read this, spring will really be here!

We had a small turnout for the Annual Meeting that took place in March for club business. The voters adopted the changes and amendments to the bylaws. The election of officers also took place. The following officers were elected for the term that began on April 1: President, Leo Sell; Vice President, Guy Hurt; Secretary-Treasurer, Gary Ferris; 16Bit Representative, Brian Goluska; 8Bit Representative, Bill Johnson.

I would like to thank all of last year's officers for a job well done and tell the new Board that I look forward to working with you this year. A special note of thanks to John Baker, who served as Vice President. Thanks John, for your help, advice and ideas. Keep 'em coming! I also want to thank Brian Goluska for all of his hard work and effort as the ST SIG Coordinator. Brian did this job almost from the formation of the SIG. Good job Brian...Thanks!!!

Brian's election as ST Representative creates a vacancy in the appointed office of ST SIG Coordinator. We are now looking for someone to help out in this capacity. I approached Mike Fildee about the job. I think he may take it, but just in case, stop and bribe him or encourage him, as appropriate. Of course, we need help with publicity too. So come on forward and volunteer!

I will briefly outline some changes taking place. Our library rental program has been very successful. So, to share the benefit with you members, the Board of Directors has lowered the price for disks purchased from the Library. The new price is \$4.00 per disk, or 6 for \$20. Another manner in which we plan to share the success is to have occasional, unannounced *free disk* specials at the meetings. Purchase, demonstration, and raffle or giveaway of commercial software has also been mentioned. But, to take advantage of this, you will have to be there.

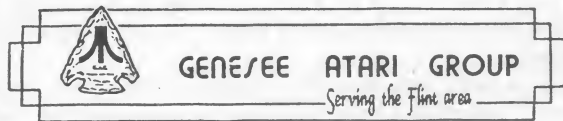
As far as the Library Rental, new prices are going into effect May 1, 1988. The new rental fees and deposits are:

8bit	\$75.00 rent,	\$125.00 deposit
ST	\$99.00 rent,	\$200.00 deposit
Both	\$150.00 rent,	\$300.00 deposit.

Complete rental information can be obtained by sending a self-addressed, stamped envelope to CHAOS.

Other news...don't forget...Sunday, April 17 is the MAXIT '88 Computer Show at the Clarion. We will need help manning tables and loans of equipment. The organizers have promised both more Atari vendors and more discounting than last year's disappointing show. Hope to see you there.

Happy Atari...
Leo Sell



8bit Disk Library

WOW! I must say our new Editor means it when he sets a deadline. No wonder we receive our magazine on time! Well, as you know I missed last month. I still think our new magazine is great. Here is what is new for April.

Disk 258 -> SIGN12.CTB, main program; SIGNDOC, full docs; SIGNMKR.SGN, sample file; RUNTIME.COM, needed; AUTORUN.CTB = SIGN12.CTB. This is nicely done and documented well. It is for Epson compatible printers. Read or print docs for more info. Prints out great-looking signs much like Print Shop.

Disk 259 -> MYCOPYR/sector copier. A real nice one-pass sector copy program for 130XE compatibles.

Disk 260 -> Chameleon terminal emulator. Fully documented terminal emulator now released as a public domain program. A must have for serious telecommunication users.

The new disks for March were...

GAG-252 -> PrintShop icons, PS format, Gaetan's Canadian. GAG-253 -> PrintShop icons, PS format, multi-color. GAG-254 -> PrintShop icons, PS format, more multi-color. GAG-255 -> Surfs up! Game - nice and graphic, Docs on backside of disk. GAG-256 -> Spaceadv.Exe by Matt Howe, text adventure, Good luck; Titanic.Bas, save the ship text adventure, you're the captain; Atariadv.Bas, find the bug text adventure-inside Atari; Fader.Exe, *.PIC Files pictures - press start to change pictures, select = DOS.

That's all folks! Live long and program.

Note: there were two disk #247's. They were the new TextPro ver. 1.2 and Word Builder. I changed Word Builder to #257. Sorry about that!

ST Disk Offerings

Because the ST disks are still being developed, we are not able to publish the disks being offered at the meetings. But for the benefit of the members who can not attend the meetings, here are the recent disk additions for March.

Disk #132: A_KENO.PRG. This is a Vegas-type Keno game with many nice touches. Disk #133 and #134 contain a collection of digitized nudes in Spectrum 512 format. Disk #135 is ST GAZETTE for February, 1988. This is a news magazine on disk from a US ST user group. Disk #136 contains Mean 18 courses Vol. #4.

Disk #137, Utilities and applications. ATTIC is another implementation of the BASIC language. Diskfree checks free space on disks. Fस्क is a hard disk utility that checks for bad or unmarked sectors. Fsреpack works in conjunction with Fस्क to rewrite all hard disk files into contiguous sectors and bubbles the files either to the top or bottom of the drive, increasing performance of the drive. Megmatic is a do-it-all boot-up utility. Timefind calculates downloading time for files. Sheet is a GEM-based spreadsheet.

Disk #138 is Games Vol 17. BOMBER is a simple

arcade-type game. Downhill is a downhill skiing game. SPC_BATL is a strategy "Star Trek" game. "TRIF" is a shoot-em-up game from Europe.

Disk #139 - ST Talk V2.0. A working demo of ST Talk Professional (some features disabled). Worth a look! Disk #140, Dungeon Master Maps. Very detailed! Disk #141 contains Dungeon Master Hints, Gossip, News, Tips, etc....

President's Report

First some bad news. Jim Tuma has resigned as Assistant Librarian of GAG. Jim was spending too much time on the library and not enough time on other important personal matters, and he felt he could not continue to do the job. Jim has been librarian for GAG for three (?) years, when Jim and myself took the job over from Gil Merciez. Thanks for all the work you did Jim!

By unanimous vote, our new librarian will be Judy Clark. It will take a few months before Judy can get in the swing of things, so be patient and understanding. I know she will do a good job. (Thanks for volunteering, Judy!)

The new 30-meg hard drive is now in place on FACTS and most of the room will go for Atari programs. I will try to keep the recent additions to our library here for those who can't attend the meetings.

One last note, I made a huge mistake with our catalogs. If you will notice, there is no way to identify the 8bit disks from the ST disks because they both use the same numbering system. So, if you order by mail, you must specify which system you are ordering for. One of our members in Minnesota ordered a bunch of disks, and naturally I sent the wrong ones out. Sorry about that! We are currently looking at ways to correct this, but it will take some time. So be sure to order properly.

Also, don't forget that this club is your club. If you are not happy with the way things are run, let one of the officers know. If we don't get any comments, then I must assume we are doing everything Ok. What did you folks think of that letter in last month's MAM? Do you feel that way about our club too? Let us know!!!

The Genesee Atari Group is a nonprofit group of Atari Owners in and around Flint, Michigan. Our purpose is to provide assistance to users of Atari personal computers. This organization is not affiliated with Atari, Inc.

GAG meets on the second Wednesday of the month at Neithercut School, located at 2818 Crestbrook Drive, Flint. Meetings begin at 6:30 p.m. During the school year, we also have a 4th Saturday session for second-shift workers. All are welcome. GAG is a participating member of the Michigan Atari Magazine. Membership in GAG includes a subscription to MAM and access to our large library of PD software, hardware and magazines. Membership is \$15 a year.

Next meetings:	April 13	General Meeting
	April 23	Saturday Workshop
	May 11	General Meeting

(May workshop may be cancelled due to Memorial Day. We will publish the date next month.)

For information contact:
 Jerry Cross 313-736-4544
 FACTS BBS 736-3920
 Genesee Atari Group
 PO Box E
 Flint, MI 48507



GKAUG meets the second Saturday of each month at 11:00 am in the Dewing Hall on the Kalamazoo College Campus. Dues are \$20/yr.

President: Frank Fellheimer 657-6106
 Vice President: Dan Youngs
 Treasurer: Dave Bryant
 Librarian: Steven Buechler
 Archiver: Dave Oldenburg
 ST Chairman: Jim Zinke
 SysOp: Alex Stevens
 GKAUG BBS: (616)657-2665

April, 1988 Treasurer's Report

It's in the mail!! We finally got the survey going to the Atari ST users known to be in the club. There were 30 names on a list donated by Rich Fosmoe (Thanks Rich), and at next month's meeting we will have the results. We will be trying hard to promote ST membership growth, and from the few surveys I got back (within a week) several are in the "maybe" stage. One drawback seems to be that there is never an ST computer at the meetings. It's hard to discuss a problem or show a demo without one. It's members who provide the hardware for the meetings, so maybe one of the ST members could bring a computer? I would be glad to hear from you. We also have DEGAS and the Winter issue (1987) of STart magazine in the club library.

The Pine Lake BBS is alive and well, and may be reached at (616)664-5769. There are Sigs for both Atari ST and 8bit, along with IBM, Amiga, Macintosh and general discussion. I have uploaded the adventure map that was demoed at the March meeting. It works with Antic's Adventure Creation Kit (March 1988).

Please check the expiration date on your mailing label. It will remind you when to renew your membership. Make any inquiry to our mailing address: GKAUG, 3218 Lincolnshire Blvd., Kalamazoo, MI 49001.

Still Computing.
 David Bryant/Treasurer

GKAUG Minutes

Third meeting of the year and this meeting went off rather well with about 15 members attending along with two new members which we welcome to our group, Harold Reiland of South Haven, and Ray Wilson of Kalamazoo.

The weather was great for Saturday's meeting, and we discussed the use of the Cute Label Program. It works really well with an Epson-style printer but we are still at a loss on how to use it on other printers.

Alex Stevens went over the MERIT Network for a number of our users who had some questions on how to use it. Dave Oldenburg had four disks available for your examination and purchase. Dave Bryant provided the computer this month and enrolled two additional members. It looks as if the club will be solvent for another month. He also introduced us to Antic's Adventure Creator from the March '88 issue. It looks as if we will be working on a group map for submission in Antic's

contest. I'm going to start this week on my map. The printouts for this map are for Epson compatibles also. I may just have to buy an Epson printer if this keeps up. My favorite programs can't print on my Prowriter...bummer!

I got a call from Detroit on Alpha's "Graphics Transformer." It might be nice if MAM included the company's address with these reviews. It would make them easier for someone to order.

We are still waiting to get our two extra double density drives for the BBS. It shouldn't be too long anyway. All we need is the power supply and the cabinet for them. They are both in working condition now.

Next month: 1. Bring in your favorite game...or not so favorite game. We want to see it. We will be looking for games for our summer picnic (in July). 2. We will be looking at some of Antic's "Adventure Creator" maps. If you want some help...let us know.

No meetings are scheduled for July and August...except for the picnic. The date will be decided later. This will give us an opportunity to "see the sun." Computing is basically an indoor sport.

Frank Fellheimer

Great Lakes 'GLASS' - MICHIGAN'S Oldest
 Atari 'ST' only Users Group
 ST Support I ♥ MY ST!

General Meeting: First Thursday (every month) 6 p.m. until 9:00. Planning Meeting: Second Thursday, 7 p.m. until 9:00. Meeting At: Athens High School, Troy, MI, Room 1406, 4333 John R, 1/10 mile north of Wattles (17 Mile). Mailing Address: Great Lakes Atari ST Support, P.O. Box 99737, Troy, MI 48099. Phone: (313) 828-1653, after 3:30 p.m.

From the Desk of the President

April...a time to grow.... Do we see the signs of discord in the Atari community? Are we unhappy because the company that manufactures our machine does not display the tenacity to produce, market and support its product like other computer companies? *Are we Atari bashers?* Perhaps we should now direct ourselves to utilizing our hardware and software and give the company time to grow and change... It does take time, you know. So onwards to spring....

Our May meeting will feature telecommunications from soup to nuts. We will have demos on FLASH! and ST-Talk Pro. The seminar will feature two ST systems, one with a BBS and the other with a home package. Our guest speaker will be Mike Gillie, sysop of the Cosmic STomper (300/1200 baud, 24 hrs., phone 313-547-0440 in Royal Oak, MI), using the MichTron BBS system. Now is a good time for you non-modem users to see how easy and convenient it is to communicate with other computers over the phone and see how a modem can be a valuable asset to your system. We even have BBS and telecommunications software in our public domain library.

The survey result was very informative and we no longer have to guess what you want to see at the meetings...everything! So...we will cover just that. The year will be full and a missed meeting will be a big loss. Besides, we will miss you!

There will be stronger emphasis on new-user training. At every meeting, there will be a new user's corner. New users will have a machine dedicated from 6 p.m.

until 6:30 (when I start flapping my gums), and continue from 7:15 until 8, covering Desktop operations, tips & tricks, RAMdisks, print spoolers, auto folders, handy accessories and more. So come early, take part, learn, enjoy and share your experiences. We hope to help you understand your ST and make it work (and play) better.

Note to Atari Corporation: We trust you to address your problems with production, advertisement, dealer network and user-group support in a professional manner...we support you.

Steve Mileski, President



Meeting: May 4, Wyoming Public Library, 3350 Michael SW., 6:30 p.m.

George Nosky	President/Treasurer	(616)942-1527
2240 Parkridge Dr. SE.	Grand Rapids, 49506.	
Gary Heitz	Vice President	(616)676-0112
Marvin Waid	Secretary	(616)866-1998
Chuck Baughman	Librarian	(616)795-7373
Gerry Borysiak	Director	(616)896-9358
Steve Gilbert	Director	(616)891-1785
Marek Kulikowicz	Director	(616)957-2646
Tim Feenstra	Member. Chairman	(616)784-6230

President's Comments

GRASS welcomes two more new members. John Dunn from East Grand Rapids and Lonnie Zamarripa from Wyoming joined us in March. John brought his daughter, Dorothy, and grandson. We have gained four new members in the last two months.

Steve Gilbert wrote a fantastic "bowling statistics" program which he demonstrated at the March meeting. I doubt there are any statistics that a bowling secretary would require that Steve hasn't incorporated. I understand it has been used by one league for several weeks without any glitches. Great job, Steve. Our thanks go to Con Scoros for providing a projection TV for Steve's demo. The library's TV didn't work, so Con got one from his work while we started the meeting. Thanks!

The revised by-laws were discussed and approved. Copies will be available at the meetings. Tim Feenstra volunteered to keep our members' "hardware" listing up-to-date. He will have a sheet at each meeting, so you can indicate to him what you have bought or sold since the questionnaire. Tim will then upload this information to Steve Gilbert's BBS.

Speaking of BBSes, another of our members started his own board. Mark Haaksma calls his "Knights of the RoundTable," and his number is (616)457-8738. It's good to see our young people getting so involved with Atari systems. I might add, two other members have BBSes. Steve is the SysOp of "GRABBS." His number is (616) 891-8740. Al Taylor has "ETXE." You can reach his BBS at (616)245-1859.

Many volunteered to help Gerry Borysiak with the Atari Fair. As you know by now, it was moved to May. I won't say much here since the Fair could be history by the time you read this. (I'm writing this the first week of March, and you probably won't read it until mid-May.)

I'll pass on an item to those of you who missed the March meeting. The February 22nd issue of Manufacturing Week indicated that Atari Corp. was expected to announce that it was pulling manufacturing back to the United States from the Pacific Rim. According to Manufacturing Week, and I quote, "according to Company sources, Atari decided to make the move to gain control of it's production, keep costs in line and insure a consistent product. Atari is expected to have OMNI-Shore Inc., a contract manufacturer of consumer electronics based in Carson City, Nevada, produce the inexpensive consumer electronic products for Atari."

Manufacturing Week continued by saying, "Atari insiders said that because manufacturing will be situated close to its design center here, it's ST, 2600 VCS and 7800 Pro System products should improve in quality."

Keep watching the newspaper and watching and listening to your TV and radio. Gary Heitz is getting us some free publicity for our meetings. This should help us get more new members. Boris Palmer, from Electronic Boutique, stopped in to see us in March. Electronic Boutique is located in the Woodland Mall near Hudson's. To my knowledge, they are the only ones in the area who stock Atari 8bit software.

Steve Gilbert, starting with the March issue, is putting this epistle on his BBS. This is a big help in getting information to you on a timely basis. Gary has lined up Tim to demo "war games" at the May meeting. For those of you reading this on "GRABBS," don't forget the News Station demo by Chuck at the April 6th meeting. News Station will be raffled off to some lucky soul. Tickets are \$1 or three for \$2.

We will vote at the May meeting to determine if we will meet during the summer months. One member suggested we meet informally in small groups during the summer. Think about it!

Unfortunately, a number of our "comments" were left out of the March issue of MAM. I hope our meeting place, time, etc. makes it this month. Also, the expiration notice didn't make it. Those people who haven't paid their 1988 dues are now considered inactive and are not receiving this issue of MAM. One other lost item; I would like to exchange newsletters with any user groups who are reading this and are not part of MAM. My address is at the beginning of this column.

Hope to see you May 4th.

M.A.C.E. Journal

MACE Meeting Dates

Officer	General
April 8	April 19
May 6	May 17
June 10	June 21
July 8	July 19
Aug. 5	Aug. 16
Sept. 9	Sept. 20
Oct. 7	Oct. 18
Nov. 4	Nov. 15
Dec. 9	Dec. 20

General meetings are held in Room 115 of the Southfield Civic Center at 10-1/2 mile Rd and Evergreen. Meetings begin at 7:30. MACE membership is \$20/yr. or \$35 for 2 yrs. To contact MACE, write PO Box 2785, Southfield, MI 48037.

Due to the fact that the March General Membership Meeting of MACE will be held after MAM's submission deadline, the March meeting minutes will not appear in the April issue. Watch for them in the May issue...

Michael Olin MACE Rec.Sec'y.

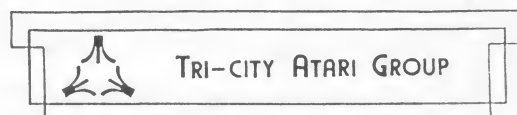
MACE Logo Contest

MACE needs a logo to go above the club news. Rules are: Michigan Atari Computer Enthusiasts must be written within the logo or used with the initials and written out after the logo. No signature on drawing, MACE Membership number must be on back of drawing. Numbers will be checked. Size should be no smaller than 3x5 and no larger than 8x10.

Materials: solid white paper done with black ink. Art work can be done using graphics (that you make yourself) on the computer or freehand artwork. Remember, this must look nice when reduced.

You must be a MACE member and officers may not enter. Deadline is May 31, 1988. Submit your work at a MACE meeting or mail to MACE, PO Box 2785, Southfield, MI, 48037. The prize is a \$50.00 value!

Winner will be announced at the June meeting. The winner gives all rights of his/her logo to MACE. Judging will be done by the MACE officers. If you have questions, see Heather P. Neff.



The Tri-City Atari Users Group meets the second Saturday of every month at 2:00 pm at the Rudy Zauel Memorial Library on the corner of Shattuck and Center in Saginaw. Upcoming meetings are scheduled as follows: March 12, April 16, 1988.

LeRoy Valley	President	686-6796
Marty Schmidt	Treasurer/Sec.	792-6029
Al Jennings	8bit Disk Lib.	790-1980
Steve Volker	ST Disk Lib.	793-2955

Club dues are \$20.00 per year. For this fee you get the Michigan Atari Magazine, support for both the 8bit and the ST and access to the club's public domain library. We currently have about 140 disks in the 8bit library and 40 in the ST library. You can get copies of these disks *at no charge* if you bring your own disk to copy on at the meeting. If you don't have a disk, you can get 8bit disks for \$1.00 and ST disks for \$2.00 each. Non-TAG members can get copies of the 8bit disks for \$2.00 each and the ST disks for \$4.00 each. If you need to renew, do it now!

The President Speaks Out

As you may have noticed, George Stuart's name is no longer in the list of officers. He is moving and has officially resigned his post, and I'll miss all the time and effort that he saved me! Good luck George!

OK, to the meat of the matter. Our eight-bitters seem to be dying out. When I ask for ideas for demos, I get no response. When I ask for volunteers for demos, I have to twist arms. This is your club! You've got to put something in to get something out! Al Jennings, 8bit librarian (doing an excellent job!) and chief 8bit demonstrator, has just succumbed to temptation and now has an ST. Please tell me what we can do to get you back! You are a very big part of the club! Show up at the next

meeting and air your feelings. Well, since I don't want to wind up this message with doom and gloom, I will mention that our ST ranks continue to swell. Many of the things I said above apply to all of you ST'ers as well. I need your input too! See you all at the next meeting.

Hot Flashes from the Future!

The month of April brings in new goodies to demo for the ST. For all those trekkie fans, Al Jennings will demo Star Trek, an adventure game with excellent graphics and digitized sound. On the useful side (teehee), LeRoy Valley will demo LabelMaster Elite, which allows you to print labels with PrintMaster graphics and different styles of text. LabelMaster Elite also serves as a name and address database!

The eight-bitters will be treated to a demo of a new DOS called Super DOS 4.4. I've seen a lot of DOSes, and this is the best yet! We received a copy from Technical Support and will raffle the disk to members. They will also be treated to some of the best PD software in the library. Come on guys and gals, you can't miss this one!

Relics to Relish

On the 8bit side of the room, Bob demoed Project Planner, which helps you organize a project from start to finish and does it very easily!

After Bob finished up, George demoed the XEP-80, the 80 column card from Atari, on a monochrome screen and it looked great! Using supplied software, you can change the display (blinking cursor, block cursor, light text on dark background, etc.). AtariWriter Plus fully supports the XEP-80 (or is it the other way around?) and works extremely well!

On the ST side of the room, LeRoy demoed Digisound ST - Oh, what a demo! (Of course, I'm slightly biased.) Along with Digisound ST, there was a product giving the ST simulated stereo! The "Audio Enhancement System" from Megatronics (1-800-232-6342) includes a monitor cable which gives you an audio-out for any ST. This audio-out then connects to a stereo synthesizer (with two bookshelf speakers) and sounds great! All for \$69.95!

8bit Equipment Volunteers:

Bob Schindehette	Disk Drive & Monitor
Club	800XL

ST Equipment Volunteers:

Dan Mazurowski	520ST & disk drive
LeRoy Valley	Monitor

Once again, a big thanks to all of you who loan your equipment to the club. Please, if you're going to be late, or can't make it, call! It's not fair to the rest of the people when there's no monitor or drive for the system!



WAUG! meets the second Tuesday of each month from 7 to 10 pm. Meetings are held in Room 2228 of the University of Michigan School of Education, located on the corner of South and East University in Ann Arbor.

List of Future WAUG! Activities

Apr. 12: Music
 May 10: "Hack and Slash"
 Jun. 14: Elections/Flea Market

General Meeting 3/8/88

This was the business applications meeting, so the emphasis of demos was on spreadsheets and databases. First, Bob Carlini showed us how the membership database is kept up-to-date using Data Perfect. This was followed by Swiftcalc for the ST, a very slow spreadsheet but easy to use. Thanks to Bob's video camera knack and Doug Feldman's VCR, these demos were shown even though Bob couldn't make it to the meeting. This was good because we couldn't get the 8bit computer to work properly, and Doug couldn't demo software as planned. However, glowing accounts of the 8bit programs were given!

I attempted to demo programs from the disk bundle I put together. Despite not being prepared to do this, I easily managed to figure out the address book program. (Why are you laughing? Oh, you were at the meeting.)

Mike Olin demoed a program written in GFA BASIC by Mike Mitchell and Bob Carlini to extract names from Super Directory files. It will be used to create a nice catalog.

Congratulations go to Dick Selke, who won the 8bit BASIC Turbo Charger package donated by Alpha Systems (see last month's MAM for details and software review).

There was discussion concerning the club's treasury. The President proposed meeting 12 months (rather than the current 10), which would mean additional costs for MAM and room rental. These additional costs would be

handled by raising dues to \$15/year. This will be voted on at the April meeting (along with discussion on the feature topic of MIDI and music).

From The Prez...

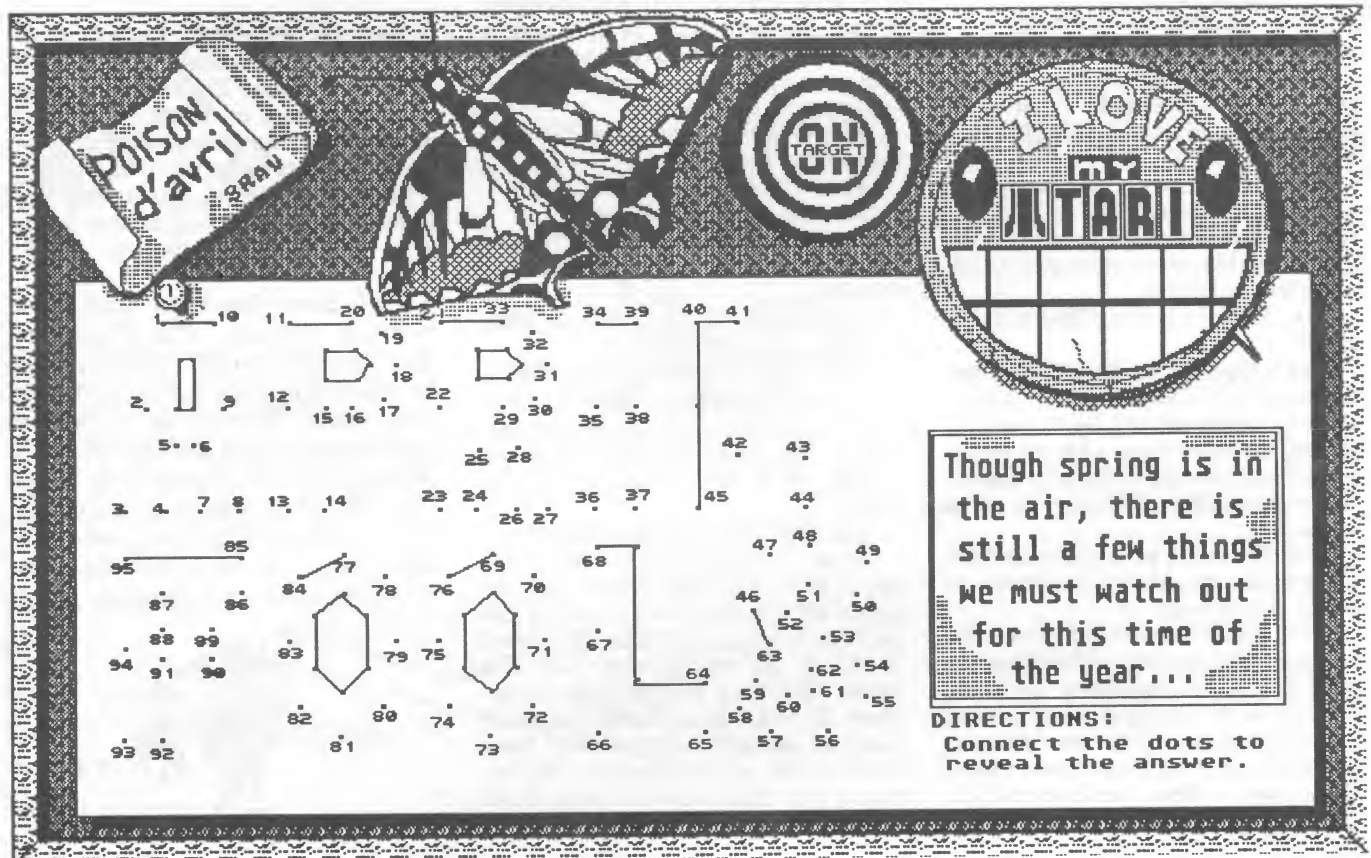
The April meeting promises to be full! The feature topic will be Music, one nice fringe benefit of owning Atari equipment.

We will make a formal decision about increasing member dues and meeting in July or August. As discussed in the February meeting, options are: 1) Membership would cost \$15. People with renewal dates during or after July would have to make arrangements for MAM. 2) Memberships cost \$15. People with renewal dates during or after July would have two months subtracted from their renewal dates. 3) No meetings held in July and August.

Several members have not received MAM until after the monthly meeting while the majority of members are receiving their copies long before the meeting. I would like members to consider what is most important: having the magazine delivered directly or picking them up at the meetings? There is a disadvantage to not mailing issues, and that is the fact WAUG! would be forced to send the magazine to members not attending the meeting. We will discuss this in April, so please bring your thoughts and suggestions.

Lastly, it is time to think about elections of officers for the 88-89 year. There are many qualified people who would make great officers; I hope to see a show of volunteers to keep our club growing. So here's the bottom line: run for an office of your choice, there are 6 to choose from with their own challenges and rewards!

Michael Olin



Cable-B-Gone by Sledgehammer Hardware and Software

Reviewed by Kenworthy Snorkel (Better Atari Regional Federation)

Have you ever wished you could do away with all those cables running around behind your computer? I found a product claiming to do just that. It's called Cable-B-Gone (CBG) by Sledgehammer Hardware and Software. Instead of buying an RS232 cable with your new modem, why not buy their RS232 Cable-B-Gone.

By the way, CBG's are available in just about every plug end imaginable - modem, printer, joystick, whatever. They have it. It's a 2-unit set. Simply plug one unit into the computer and the other into the modem. No more cable! The units communicate over the air.

The CBG units are small, no larger than the plug they replace. I was so amazed with the claims of CBG, I went to Sledgehammer Hardware and Software to find out more. I was lucky enough to get a few minutes to chat with the President of Sledgehammer H&S.

Me: Hello, I'm glad you could take the time to answer a few questions about your Cable-B-Gone hardware.

Prez: I'm more than happy to answer questions. We're very excited about this new product line. Quite frankly, we're also glad to receive free publicity.

Me: How can the CBG's be so small?

Prez: Thanks to the FCC allowing unheard of amounts of interference to be broadcast by household items, we have been able to eliminate space-eating items like shielding and quality. It's easy to make 'em small.

Me: Wouldn't an unshielded RF source interfere with monitors or affect disk drives?

Prez: That's an added plus. The intense RF noise causes continuous color-shifting in monitors. No more worries over images getting burned into expensive monitors. Also, it makes it easy to bulk-erase disks. Just place a drive (or disk) within 17 yards of one of our transceivers

and whoosh...a clean, virgin disk.

Me: Does that mean I would have to position my drives more than 17 yards from the rest of my computer equipment?

Prez: Yes, but remember there's no cables to worry about, so the 17-yard minimum is the only restriction when deciding where to place your drives. Also, it's well documented that computer users don't get enough exercise. Just 20 minutes a day of computer use will force the typical user to walk more than 2 miles.

Me: Doesn't interference cause garbled or lost data?

Prez: We did have problems at first. We solved it by using a highly sophisticated transmission protocol which sends data in packets, then checks and rechecks for accuracy. It's similar to Xmodem used by the on-line services.

Me: Doesn't that slow down the system?

Prez: Yes, but that's the best time to make the 17-yard walk to change disks. We were able to increase speed by making all the units operate on the same frequency. There are some tremendous advantages. When the computer is printing a document, the disk drive transceiver will pick up the signal and copy the computer output to disk.

Me: What if I don't want a disk copy of the output?

Prez: Unplug the drive.

Me: But it's 17 yards away.

Prez: You must have 17 yards of AC power cord. Just unplug it from the wall.

Me: Back to their small size. How are the units powered?

Prez: Another first. Our CBG's are nuclear powered. Each has it's own tiny reactor. No batteries to replace. No power drain on the computer. And, best of all, no power cord.

Me: Isn't radiation a problem?

Prez: At first we were concerned about that, but after lab testing we found each unit emits only 1% of the radiation released in the Chernobyl disaster. So we figure, what the heck. What's a few random mutations 30 or 40 years down the road? Also, we haven't heard a word from our beta or gamma testers. We assume the units are working flawlessly.

Me: What's the life span of one of these reactors?

Prez: We aren't sure yet. We do guarantee them for life. The life of the user, not his computer equipment. Like I said before, we haven't heard a word from our beta or gamma testers.

Me: Are the reactors safe?

Prez: Yes, completely safe. We have had some sporadic problems with some of the units during assembly. All the problems were attributed to sloppy workmanship.

Me: What problems have you run into, and what do you do about employee error?

Prez: At one point in production, the reactors are very unstable. One slip can cause a tremendous explosion. All employees involved in production errors are no longer with us. We usually shut down the entire plant when a unit fails.

Me: How often do these explosions occur?

Prez: We haven't had a plant "mushroom-cloud" on us for days.

At this point a secretary walks in.

Sec: Mr. Prez, Mr. Kadafy is on the phone long distance for you.

Prez: (To Sec.) Thank you. I'll be with him in a minute. (To Me) I really must be going. Our plutonium supplier is on the phone. He's a bit unpredictable, but he has the lowest prices and the quickest delivery. Thanks for stopping by.

I left Sledgehammer H&S with a warm feeling. The Prez was the most friendly, warm, and trustworthy person I've met in a long time. He seems to have a very unique and safe product. I admire the quality control. Who else closes a plant if only one unit fails? If there's enough interest, I'll do a review of a CBG for future publication.



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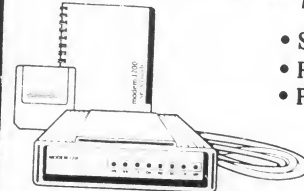
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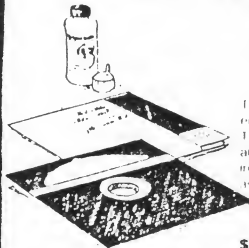
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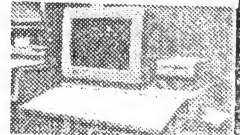
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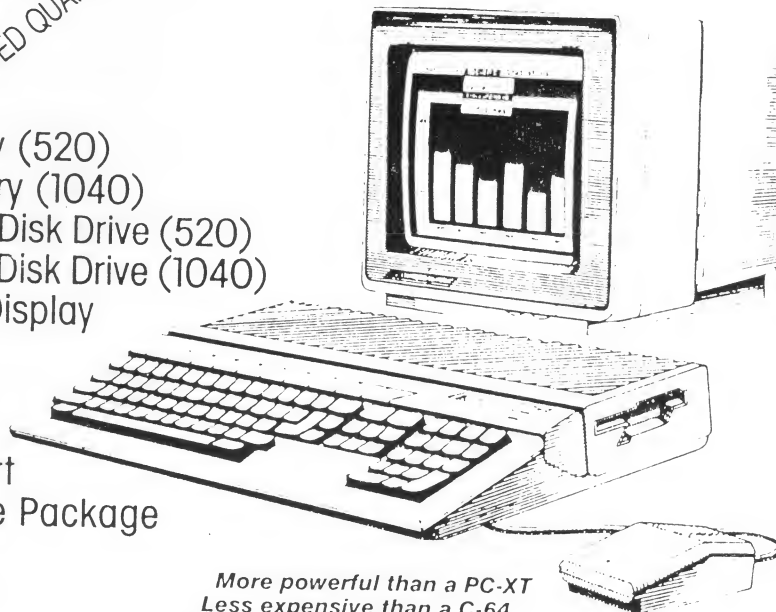


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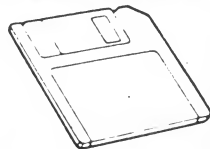
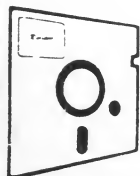
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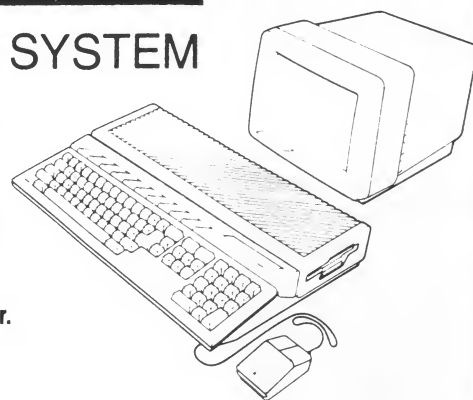
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